Duplo Docu Cutter DC-545HC

Service Manual

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SERVICE MANUAL

Ver.1 *DOCU CUTTER*

DC-545HC

Be sure to read this manual carefully, so that you repair and service this machine safely and correctly. Do not begin work until you have thoroughly understood the contents of this manual.
Repairing or servicing the machine with insuffeicient knowledge about it could lead to unforeseen accidents or falls in the machine's performance or quality.

DUPLO SEIKO CORP.

Introduction

⚠ The cause of most accidents is failure to adhere to basic safety rules and observe safety instructions. It is important to prevent potential causes of accidents from occurring. In order to do so, read this manual carefully, and be sure to understand all the safety instructions and correct inspection and servicing procedures that it provides before beginning repair or servicing work.

Repairing or servicing the machine with insufficient knowledge about it could lead to unforeseen accidents.

⚠ It is not possible to anticipate and describe in a manual such as this every possible hazard that could arise in the course of repair and servicing. Therefore, besides observing the safety instructions marked ⚠ in this manual and on the machine's labels, service personnel should be safety-conscious and take other safety precautions as necessary. When performing repair or service work not covered by this manual, you should obtain safety guidance from an appropriately knowledgeable person.

⚠ Safety instructions

1.Cautions regarding the installation location

⚠ Safety instructions

Installation environment

▶ Avoid installing the machine in places exposed to direct sunlight.
- Sunlight will cause the temperature in the machine's interior to rise, possibly leading to malfunction of the control system.
- Sunlight could cause misoperation of the sensors.
- The heat of direct sunlight could cause deformation of the machine's plastic parts.

* Also avoid installation near to a ground glass window; light and heat penetrate such windows although they are opaque.

▶ Avoid installing the machine in places subject to high or low temperature or humidity.
- High or low temperature or humidity could cause the machine to operate abnormally.
  Suitable temperature and humidity ranges are:
  Ambient temperature: 5˚C–30˚C
  Ambient humidity: 40%–70%
  Optimum temperature and humidity: 20˚C, 65%
- If the machine is installed near to faucets, water heaters or humidifiers, or in cool (sunless) parts of a building or in the vicinity of water sources, the paper could absorb moisture and curl, leading to misfeeds or poor image quality.

▶ Avoid installing the machine in places with open flames, or where reflected heat or other hot air currents (from stoves, etc), or cold air currents from coolers, etc will strike it directly.

▶ Avoid installing the machine in poorly ventilated places.

▶ Avoid installing the machine in dusty places.

▶ The machine should not be tilting when it is used.
- Install the machine so that it is level.
  (The machine should be level to within 5mm in the front-rear direction, and 5mm in the lateral direction.)

▶ Do not install the machine on shaky, sloping or otherwise unstable surfaces.
- The machine could fall over on such surfaces, or fall off them, causing injury.

2. Cautions for installation work

⚠ Warning

- The machine's power supply voltage and power consumption depend on the model. Details of this are given in the tables below. The power supply voltage and power consumption for the machine are given in the table below. The machine's power supply voltage is indicated on the identification plate located on the machine's left side; the machine must be connected to a power supply of the voltage indicated.

➡ Otherwise, fire or electric shock could result.

If the power supply voltage is unstable or if the power supply has insufficient capacity, the machine may not operate normally.

Make sure that the power supply has sufficient capacity for the system as a whole, including optional equipment.

*** 120V AC model**

Power supply voltage	Connect to outlet of 120V AC, 60Hz, at least 15A
With no load* At full load	No more than 130V AC At least 110V AC } Use power supply meeting these requirements
Power consumption	During operation : 90W In standby : 15W

*** 230V AC model**

Power supply voltage	Connect to outlet of 230V AC, 50Hz, at least 8A
With no load* At full load	No more than 250V AC At least 210V AC } Use power supply meeting these requirements
Power consumption	During operation : 90W In standby : 15W

* "With no load" - when the machine is on standby.
* "At full load" - when the machine is running at maximum power consumption.

- Use only the power cord that is provided among the accessories.
  Insert the power cord plug firmly into the socket, so that proper electrical contact is effected.
- Install the machine close to its power supply. The outlet used should be exclusively for the machine, and have no other equipment connected to it.
  If an extension cord is necessary, it should have a ground terminal, and be of the following ratings:
  * For a 120V AC model: 130V, at least 15A, length not exceeding 5m.
  * For a 230V AC model: 250V, at least 8A, length not exceeding 5m.
- Never tread on the power cord or pinch it between other objects, or accidents could result.

⚠ CAUTION

- Install the machine in accordance with the installation procedure appended to this manual.

Using the stand

- Lock the casters after the machine is installed.

➡ Otherwise, the machine could move or fall over, causing injury.

- To move the machine, push it by its mounting base.

➡ Pushing the DC-545 could make it fall over.

3. Cautions for maintenance, inspection and servicing

⚠ Warning

◉ Precautions for safe servicing
- Always remove the power cord plug from the outlet before starting work.

➡Otherwise, you could get a shock or your hands/fingers could be injured.
- However, the plug must be left connected to the outlet when performing function checks (of individual motors, a given series of operations, or electrical circuits). When motors are operated alone in function checks, interlocks are deactivated, so be aware of the conditions and positions of related equipment, and take great care not to put your hands or fingers into moving parts.
- The cutter unit and slitter unit contain hazardous sharp blades. Exercise great care when inspecting the cutter unit or replacing it or its parts.

➡Otherwise, your hands/fingers could be injured.

- Do not touch the drum or rollers after turning on the jog switch.
- Do not put your hands or fingers inside the machine while the drum is rotating.

➡Otherwise, your hands/fingers could get caught and crushed between the drum and rollers.

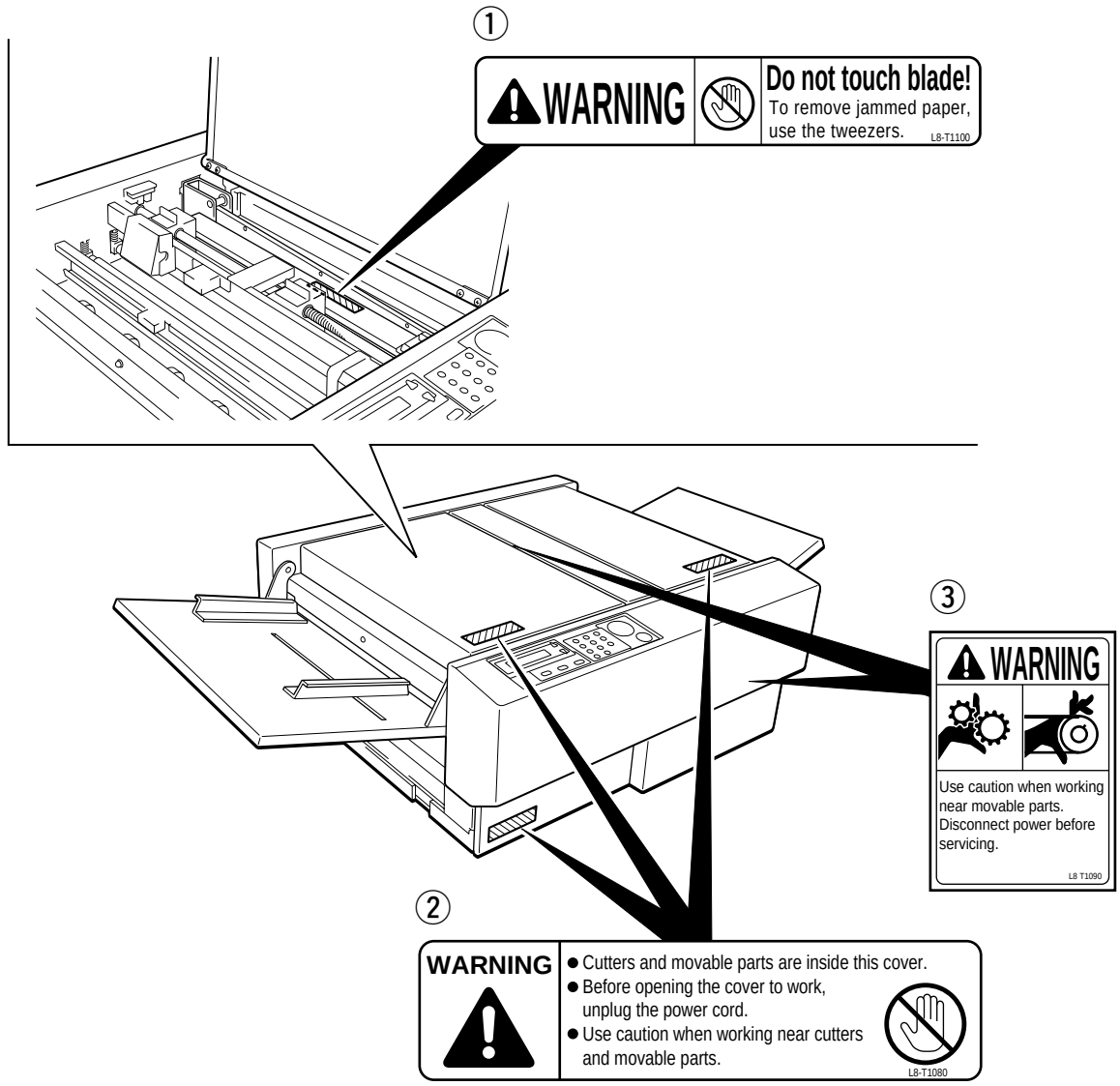
◉ Working clothes
- Wear clothing than enables you to work safely.

⚠ CAUTION

◉ Tools
- Use tools that are appropriate for the work.

▣ Warning Sticker

Keep the WARNING stickers clean at all times. If labels become damaged or come off, have your service representative replace them.



No.	Parts No.	Name	Q'ty
①	L8-T1100	Warning Sticker 1	1
②	L8-T1080	Warning Sticker 2	3
③	L8-T1090	Label Caution	2

Introduction	Chapter 1
Description of Operation	Chapter 2
Mechanical	Chapter 3
Standard Adjustments	Chapter 4
Maintenance Checks	Chapter 5
Troubleshooting	Chapter 6
HELP Mode	Chapter 7
Miscallaneous	Chapter 8

Table of Contents

Introduction 1
Safety instructions 2
1. Cautions regarding the installation location 2
2. Cautions for installation work 3
3. Cautions for maintenance, inspection and servicing 4
Warning Sticker 5

Chapter 1 Introduction

1 Specifications 10
2 Dimensions 11
3 Part Names and Functions 12
4 Work Flow 15
5 Options 16

Chapter 2 Description of Operation

1 Paper Feed Unit 18
2 CCD Mechanism 30
3 Margin Slitter 32
4 Guillotine Cutter Unit 34
5 Creaser Unit 35
6 Center Slitter 37
7 Paper Eject Tray 39
8 Main Drive 40
9 Skew Adjustment Mechanism 43
10 BAR CODE 44
11 REGISTER MARK 45

Chapter 3 Mechanical

1 Exterior 49
2 Feed Section 52
3 CCD Section 59
4 Margin Slitter Section 60
5 Cutter Section 67
6 Creaser Section 69
7 Center Slitter Section 71
8 Driving Section 79
9 Electric Section 85

Chapter 4 Standard Adjustments

1 LCD Panel 94
2 Slitter Position 95
3 Cutter Registration 98
4 Creaser Calibration 100
5 CCD Horizontal Line Alignment 102
6 Adjusting Crease Depth 104
7 Feed Solenoid Adjustment 105
8 Gate Solenoid Adjustment (Without the DC-545HC) 106
9 Cutter Assembly Perpendicularity Adjustment 107
10 Creaser Perpendicularity Adjustment 108
11 CCD Vertical Line Alignment 109
12 Elevator Switch Height Adjustment 111
13 Cover Switch (AF-100 : 1 position, DC-545 : 2 positions) 112
14 Shutter Solenoid 113
15 Creaser Sensor Plate Adjustment 118

Chapter 5 Maintenance Checks

1 Cleaning and Oiling 120
2 Periodic Maintenance Check List 120

Chapter 6 Troubleshooting

1 Troubleshooting Guide 124
2 Error Display 132

Chapter 7 Help Mode

1 HELP Mode List 140
2 Functions and operation procedures for each HELP mode 141
3 HELP Description 142
4 Select Language for Displays 150

Chapter 8 Miscallaneous

1 Job List 152
2 Position and Function of Electronic Parts 156
3 Overall Wiring Diagram 161

Chapter 1 Introduction

1

1 Specifications 10

2 Dimensions 11

3 Part Names and Functions 12
1. Appearance 12
2. Operation Panel 14

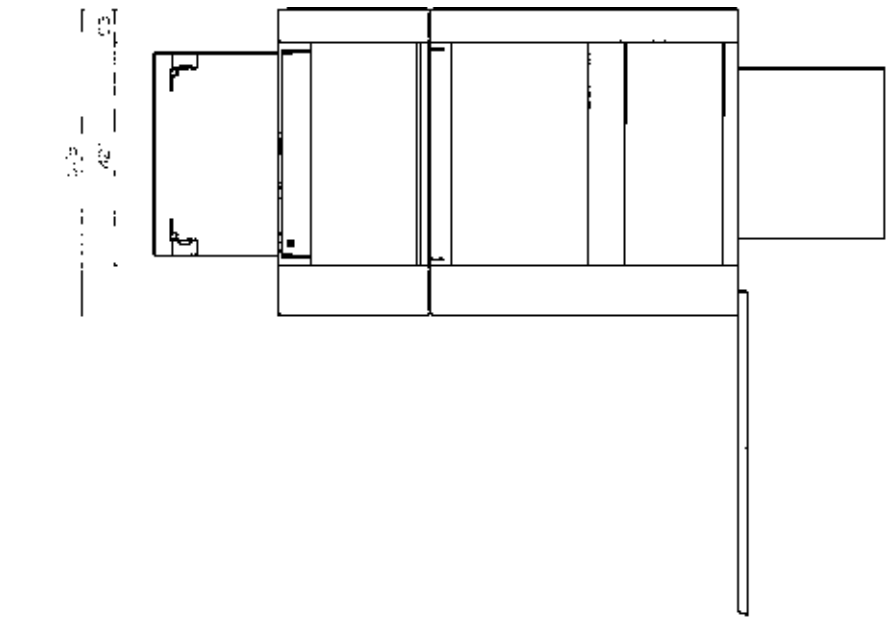
4 Work Flow 15
1. Operations 15

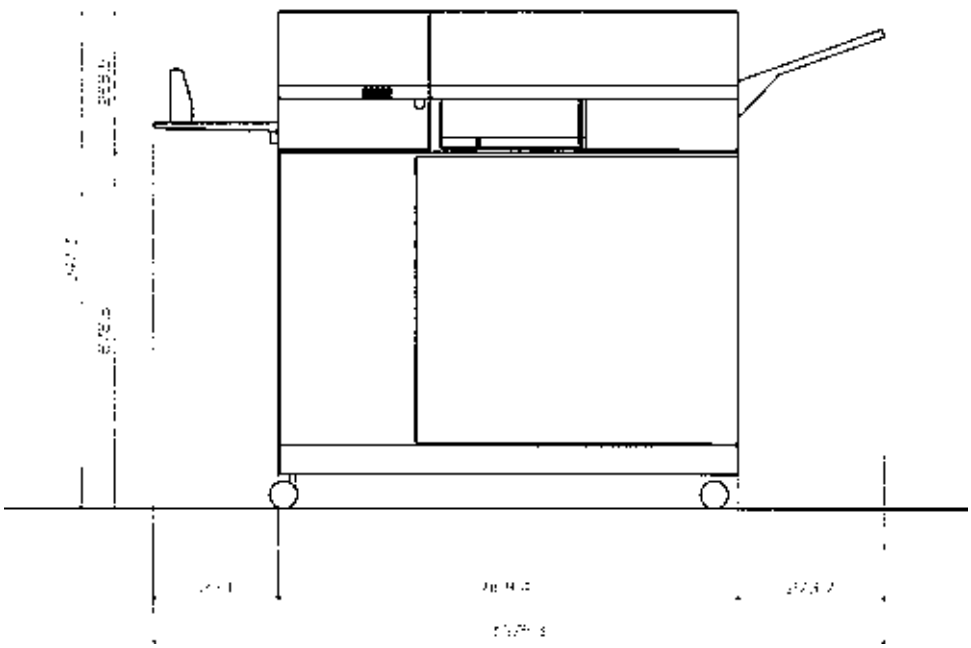
5 Options 16

1 Specifications

Product name/Model No.	DC-545 with HC AUTO FEEDER
Input paper size	Min.: 8.5” x 11”/A4 Max.: 12.6” x 18”/A3
Input paper weight	Min.: 110 gsm, Max.: 230 gsm <No curl in the paper>
Finishing size	Min.: 2” (Width) x 3.5” (Length) <Business card size>
Lead edge trim	Min.: 0.125” (3.2 mm)
Trail edge trim	Min.: 0.125” (3.2 mm)
Side edge trim	Min.: 0.125” (3.2 mm), Max.: 4.5” (114 mm)
Speed	Max.: 9 ppm (A4 lengthwise, 4-side trim, 1 crease)
Trim/Crease tolerance	± 0.03” (± 0.762 mm) <With paper cutting length not exceeding 18”>
Media type	Range: Regular copy paper to coated heavy weight paper
Feeding method	Automatic Feeding (Air suction method)
Feed tray capacity	100 mm
Stacker	Drop type
Power supply	AC 120 V ±10%, 50/60 Hz, 1.0 A AC 230 V ±10%, 50/60 Hz, 0.6 A
Machine dimensions (mm)	1376 (W) x 576 (D) x 948 (H)
Machine weight (kg)	109.6 (Main body 56.4, Feeder 20.4, Stand 32.8)
Other Features	1. Four creases perpendicular to the feed direction. 2. Up to ten cuts perpendicular to the feed direction. 3. Automatic setting of slit, cut and crease position.

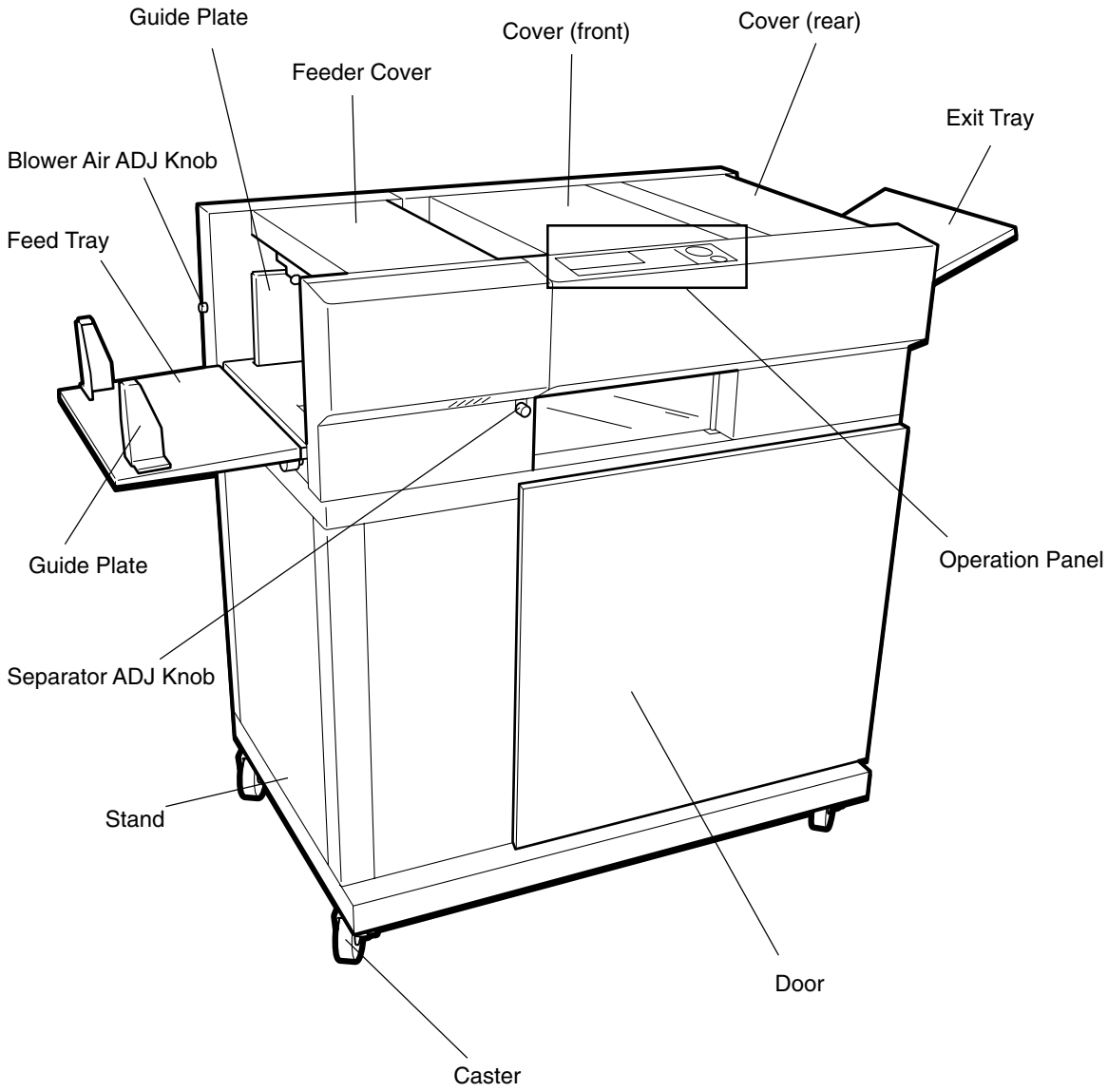
2 Dimensions



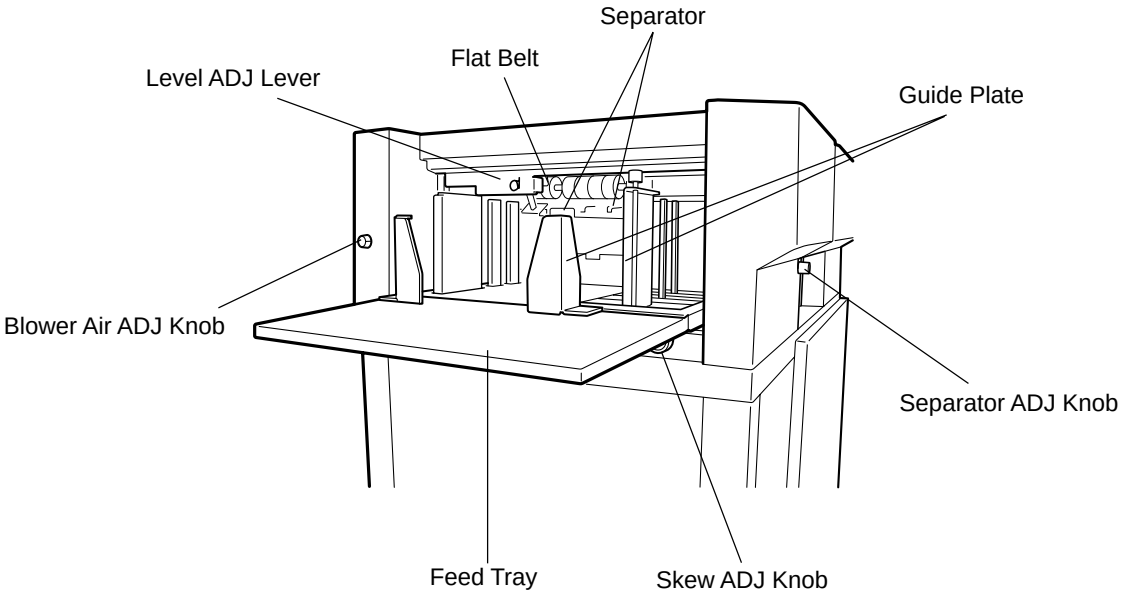


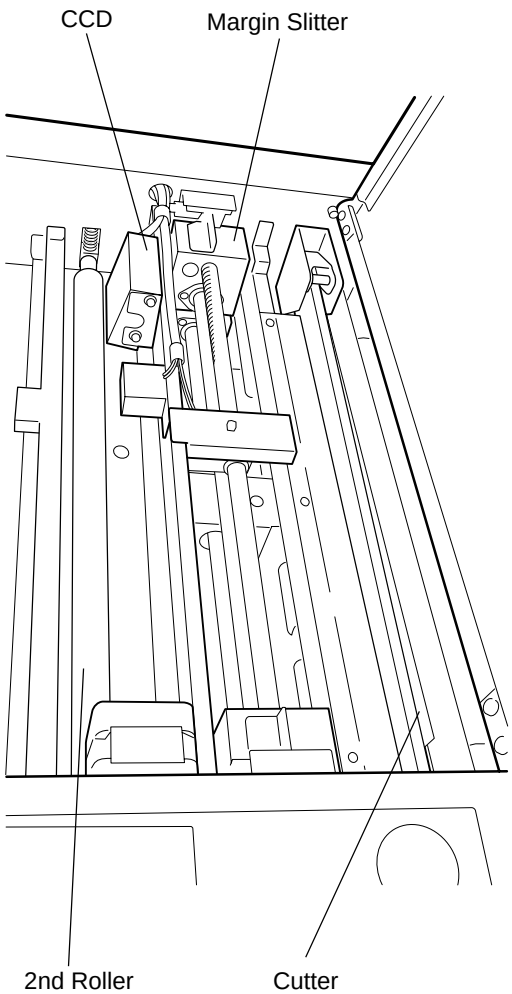
3 Part Names and Functions

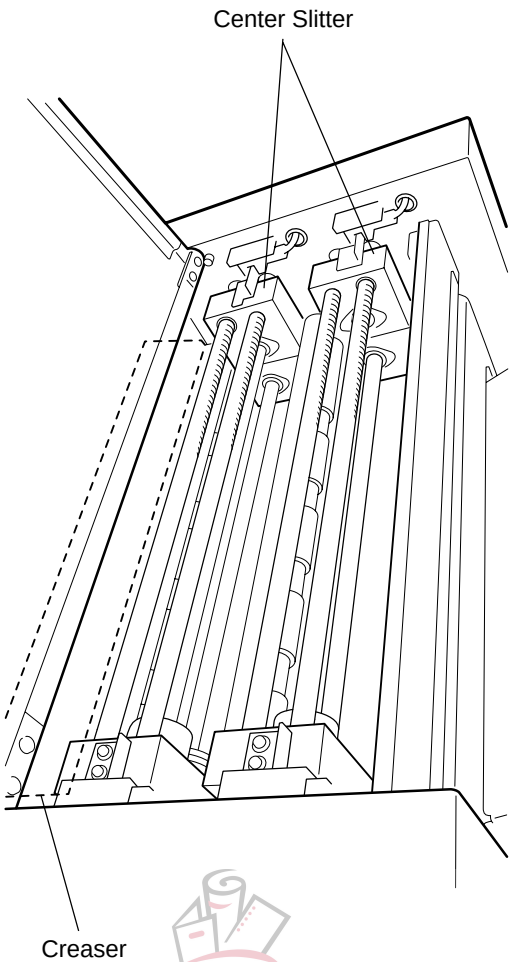
1. Appearance



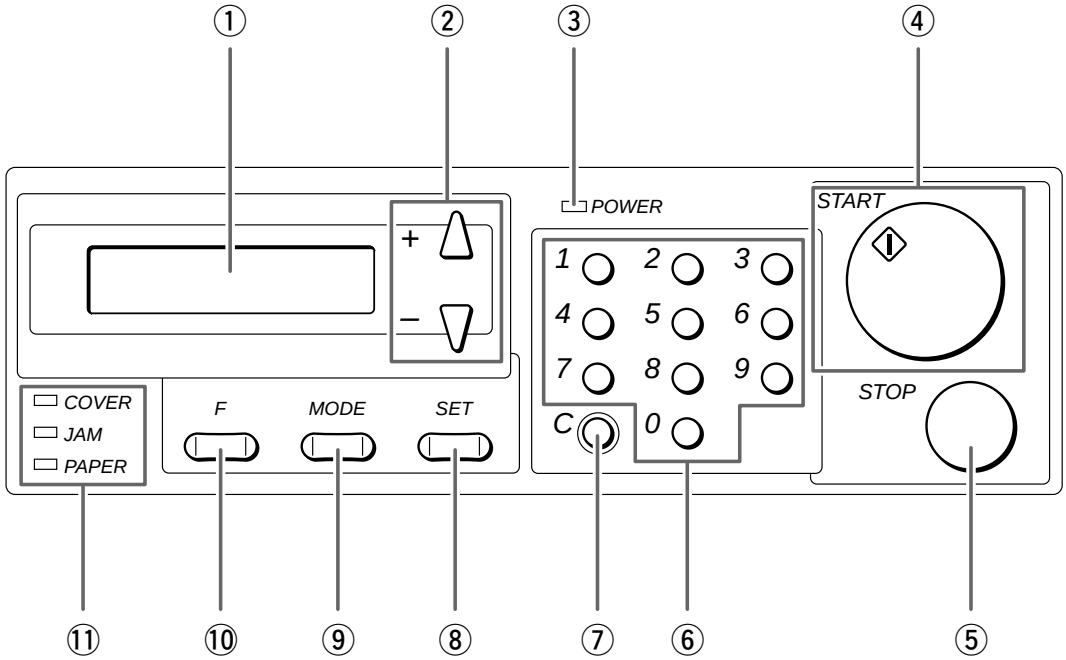
Feeding Section







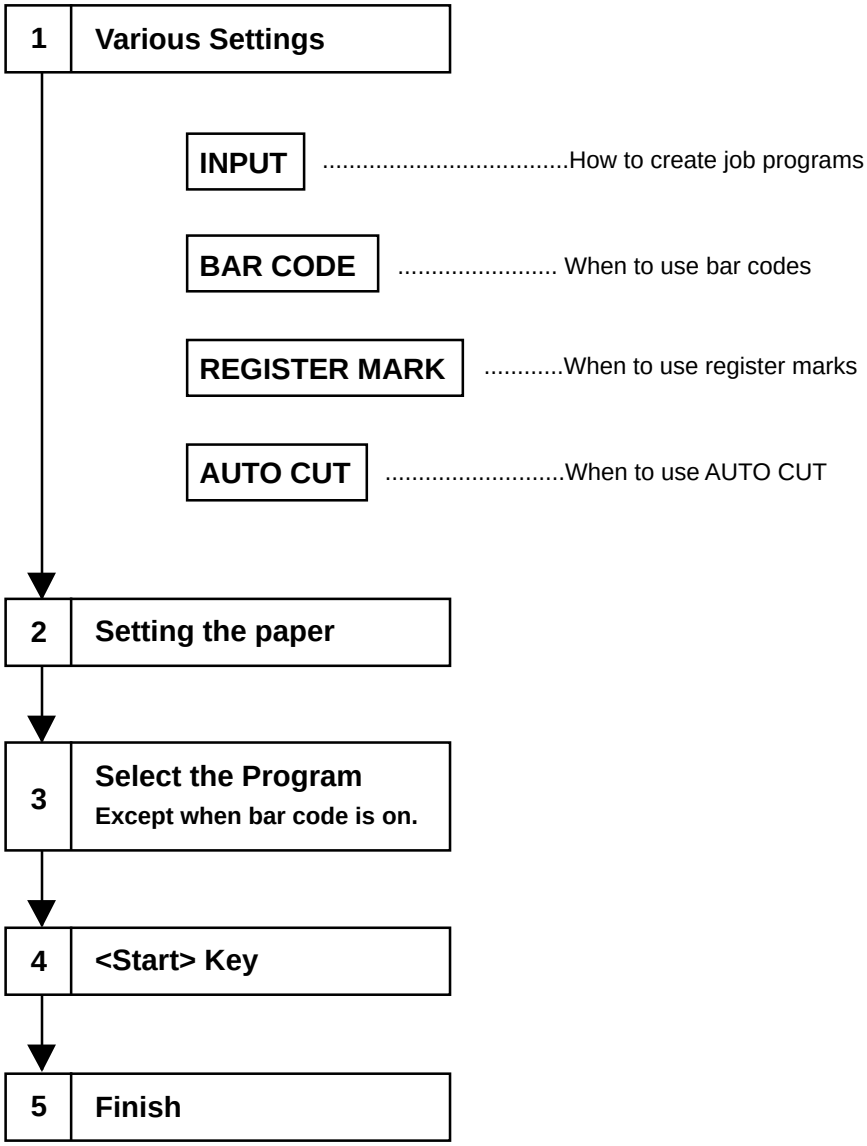
2. Operation Panel



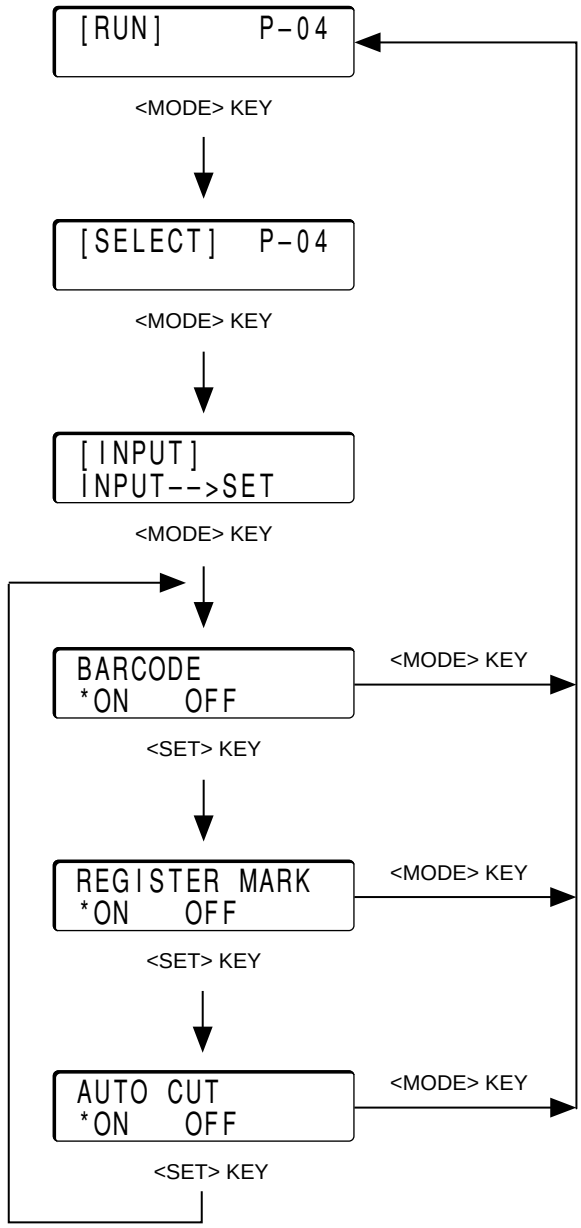
No.	Name	Function
①	**LCD panel**	Displays the status of the machine. Displays messages when an error or paper jam occurs.
②	**<+> key**	Press to eject the document from the machine at the time of paper jam.
	<-> key	Press to eject the document from the machine at the time of paper jam. During programming mode enables backward movement through the program steps.
③	**POWER lamp**	Lights up when the power is switched on.
④	**<START> key**	Not used when the DC-545 is operated without the autofeeder - AF-100. Press to start processing when the AF-100 is attached.
	START lamp	Normally lights up in green. Lights up in red when the front cover or the rear cover is open.
⑤	**<STOP> key**	Press to stop automatic feeding after the current sheet is processed. Press to clear jam indication after the paper is cleared.
⑥	**Key pad**	Press to enter print numbers and enter values during manual programming.
⑦	**<CLEAR> key**	Press to clear the count. Press to cancel manual programming.
⑧	**<SET> key**	Press to confirm selection/entry. Used to test process a single sheet. (for systems with the AF-100 only)
⑨	**<MODE> key**	Press to change the mode.
⑩	**<F> key**	The AF-100 Feed Tray lowers while the <F> + <-> keys are being pressed.
⑪	**COVER lamp**	Blinks when the front cover or the rear cover is open.
	JAM lamp	Blinks when a paper jam has occurred.
	PAPER lamp	Blinks when paper runs out. (systems with the AF-100 only)

4 Work Flow

1. Operations



MODE switching is shown next.



5 Options

Setting the Optional Slitter 2

Chapter 2 Description of Operation

1 **Paper Feed Unit 18**
- **1. Description 18**
- **2. Operation 18**
- **3. Operation of each unit 19**
  - (1) Fan (Blower) 19
  - (2) Fan (Suction) 20
  - (3) Paper Level Sensor 21
  - (4) Suction Unit and Feed Motor 22
  - (5) Separator Gap 23
  - (6) Elevator Motor 24
  - (7) Elevator Upper Switch 25
  - (8) Elevator Lower Switch 26
  - (9) Paper Detection Sensor 27
  - (10) Feed Solenoid 28
  - (11) Feed Stepping Motor 29

2 **CCD Mechanism 30**
- **1. Description 30**
- **2. Operation 30**

3 **Margin Slitter 32**
- **1. Description 32**
- **2. Operation 33**

4 **Guillotine Cutter Unit 34**
- **1. Description 34**
- **2. Operation 34**

5 **Creaser Unit 35**
- **1. Description 35**
- **2. Operation 35**

6 **Center Slitter 37**
- **1. Description 37**
- **2. Operation 37**

7 **Paper Eject Tray 39**
- **1. Description 39**

8 **Main Drive 40**
- **1. Description 40**
- **2. Operation 41**

9 **Skew Adjustment Mechanism 43**
- **1. Description 43**

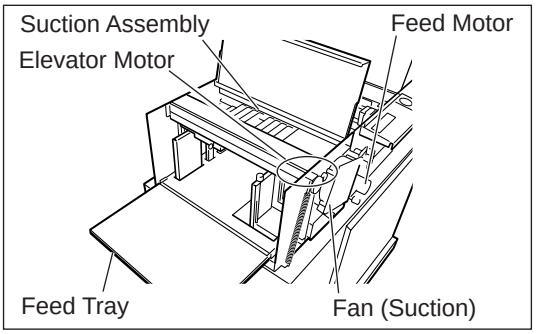
10 **BAR CODE 44**
- **1. Description 44**

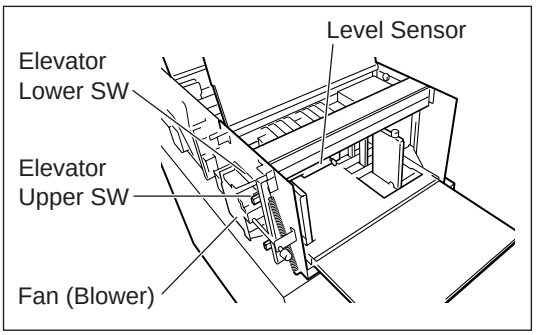
11 **REGISTER MARK 45**

1 Paper Feed Unit

1. Description

The paper loaded on the feed tray is raised by the elevator motor. When the paper is in the required position, a jet of air from a fan in front of the paper causes several sheets of paper to rise up. The suction unit pulls up the top sheet only, and then the feed motor drives the suction belt to transfer the paper.
When the paper from the AF-100 reaches the PPS1 in the DC-545, the paper is transferred to the paper path by the press roller and the feed stepping motor.
A separator mechanism is used to prevent two or more sheets from being transferred at one time.





2. Operation

1) Processing starts (processing does not start if there is no paper).
   The fan (blower) and the fan (suction) start running.
2) The feed tray starts rising.
3) The feed tray stops when the paper level sensor turns on (light is not transmitted).
4) The shutter solenoid operates and the shutter opens and the paper is sucked onto the suction unit.
5) The feed motor starts and the suction belt begins turning to transfer the paper.
6) The feed motor stops when the paper reaches PPS1 (light is not transmitted).
   If paper does not reach PPS1 within about 2.5 seconds, the elevator falls repeating operations 3) to 5) until the paper level sensor turns off (light is transmitted). If the operation is repeated three times before the paper reaches PPS1, a J2: FEED JAM error occurs and the machine stops.

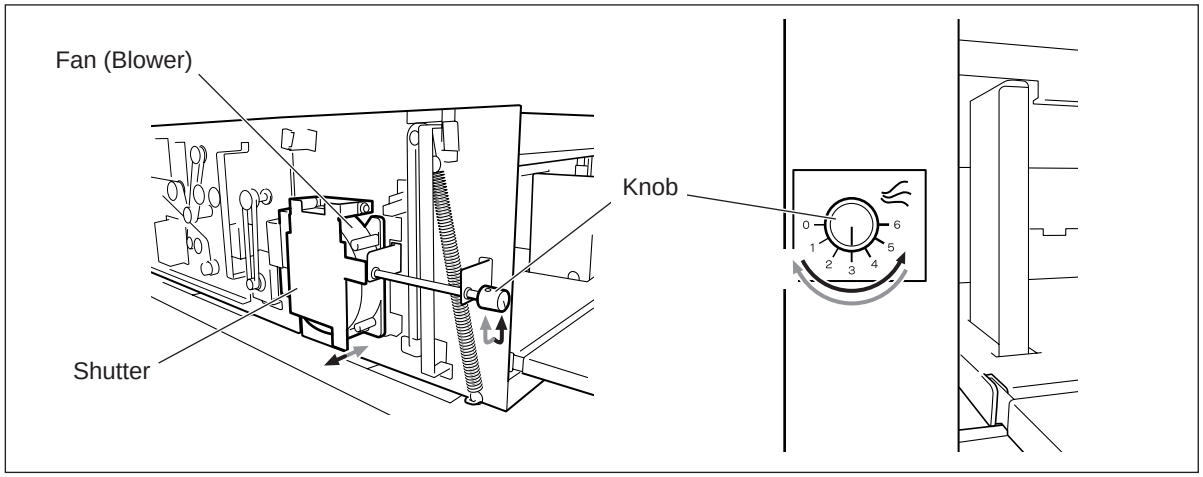
➡See page 132

3. Operation of each unit

(1) Fan (blower)

Description

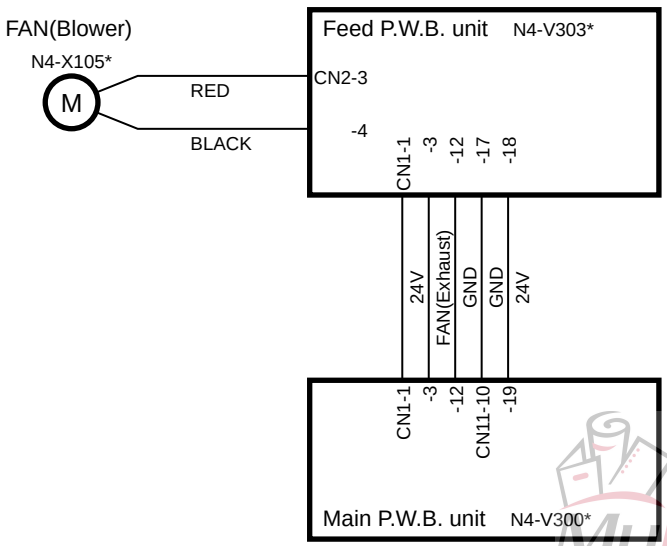
Paper on the feed tray is transferred to the blower and several sheets are floated up.
The airflow of the blower is adjusted by changing the position of the shutter and fan unit.
The level the paper is floated up is adjusted by changing the airflow of the blower and the paper level sensor.
The fan (blower) is usually running during processing.



Operation

The blower airflow can be increased by turning the knob so the numbers increase.
The gap between the shutter and the fan increases, which increases the air intake and therefore increases the amount of air blown out.
The blower airflow can be decreased by turning the knob so the numbers decrease.
The gap between the shutter and the fan decreases, which decreases the air intake and therefore decreases the amount of air blown out.

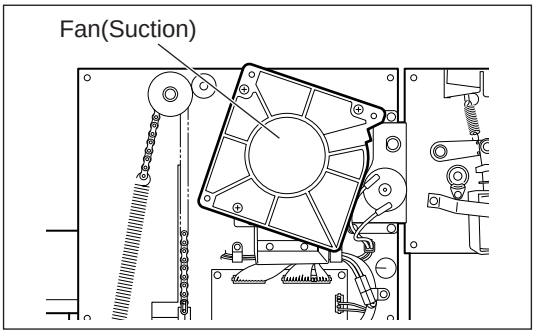
Circuit diagram



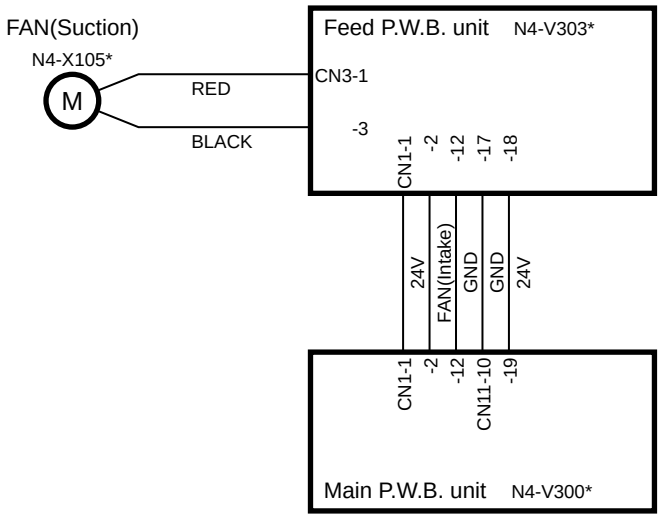
(2) Fan (Suction)

Description

Air near the suction belt is sucked in, and then blown out on the right side of the AF-100.
The fan (suction) is usually running during processing.



Circuit diagram

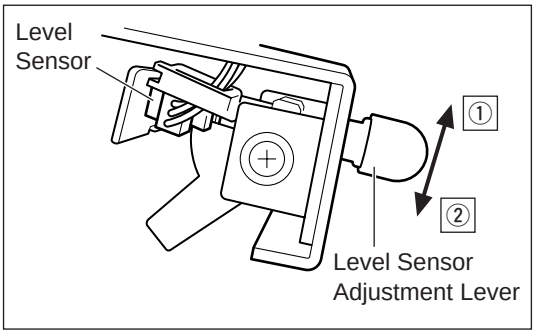


(3) Paper Level Sensor

Description

The paper level sensor controls the elevator motor to determine the position of the feed tray by detecting the position of the topmost sheet of paper on the feed tray.

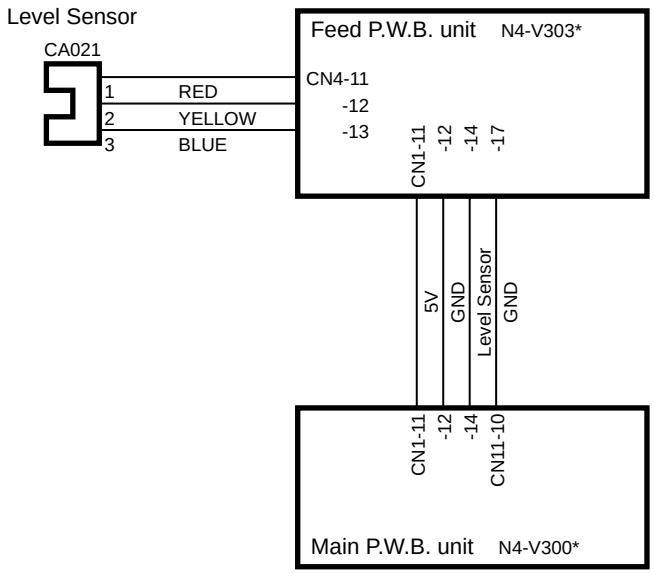
Status	Output
Light not transmitted	5V
Light transmitted	0V



To reduce the force of the suction, move the adjustment lever towards ① to increase the gap between the suction belt and the paper.
To increase the force of the suction, move the adjustment lever towards ② to decrease the gap between the suction belt and the paper.

Turn the lever towards ① if the paper is double feed.
Turn the lever towards ② if the paper is not being sucked on to the suction unit.

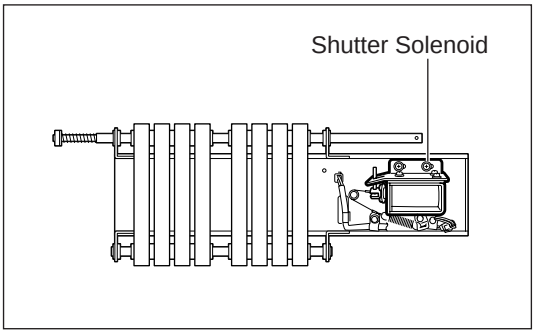
Circuit diagram

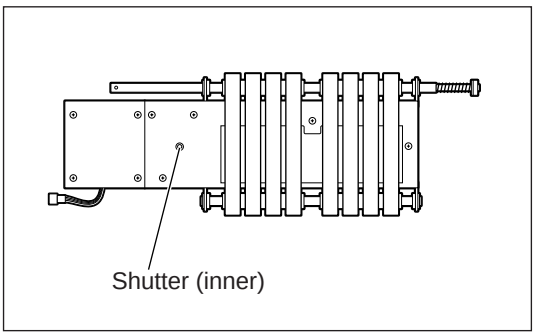


(4) Suction Unit and Feed Motor

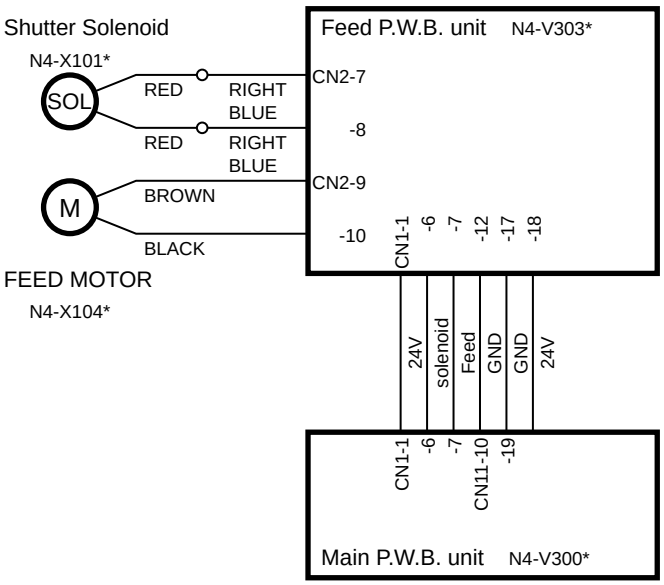
Description

Because the fan (suction) is running during processing, when the shutter solenoid is on, the topmost sheet of paper on the feed tray is sucked on to the suction unit. The feed motor starts running about 0.3 seconds after the shutter solenoid turns on, and the suction belt turns and transfers the paper to the DC-545.





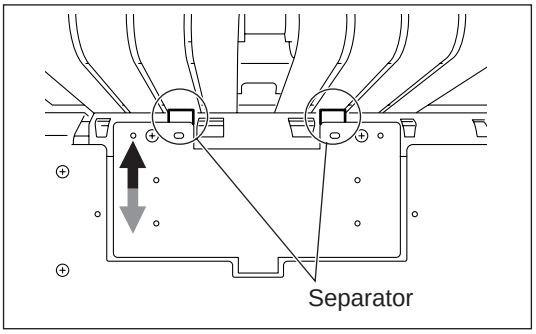
Circuit diagram

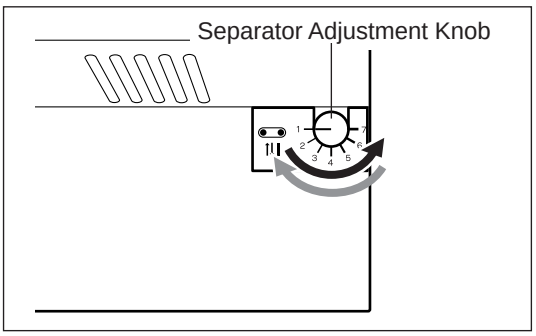


(5) Separator Gap

Description

The separator gap is a mechanism between the separator and the suction belt that allows paper that is sucked on to the suction unit to be transferred one sheet at a time to the paper path.
This gap is regulated by turning the knob to raise and lower the separator.



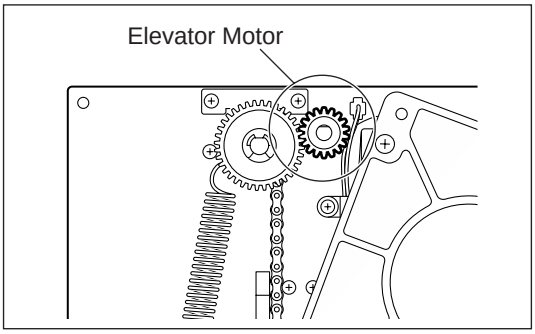


Turn the knob so that the numbers increase to make the gap narrower. The separator rises and the gap narrows.
Turn the knob so that the numbers decrease to make the gap wider. The separator falls and the gap widens.

Raise the separator if the paper being transferred is double feed. Lower the separator if paper is mis-feeding.

(6) Elevator Motor

Description

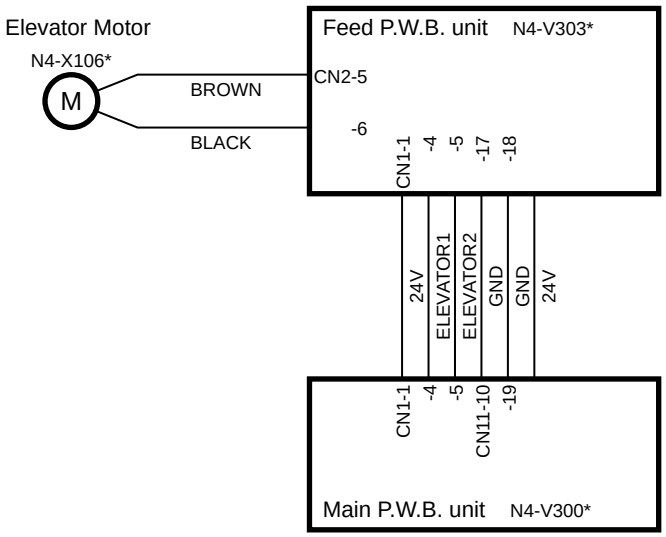


The elevator motor raises and lowers the feed tray.
When there is no paper on the feed tray, the feed tray lowers until it triggers the elevator lower SW.
However, if paper is loaded on the feed tray while it is lowering (paper sensor is not transmitting light), the elevator motor stops and the feed tray stops lowering.
The feed tray rises until the paper level sensor is on (light is not transmitted) while paper is being fed.
During a paper feed retry operation, the feed tray continues to lower until the paper level sensor goes off (light is transmitted) for a period. Then the feed tray rises until the paper level sensor goes on (light is not transmitted).
If paper does not reach the elevator upper switch, elevator lower switch, or paper level sensor after a set time (*) after the elevator operation, an E8: ELEVATOR ERROR occurs.

* 10 seconds when rising at start, 3.5 seconds during paper feed operations, 9 seconds when lowering at stop

➡See page 138

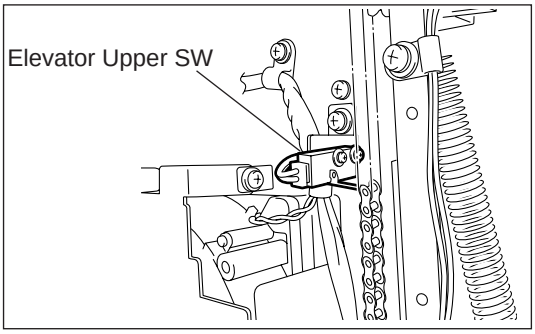
Circuit diagram



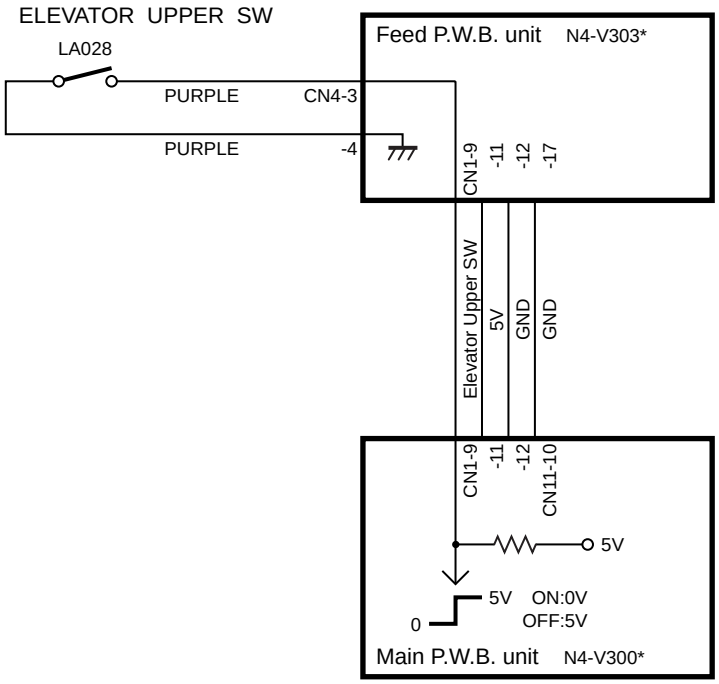
(7) Elevator Upper Switch

Description

The feed tray stops when the angle that is attached to the chain that raises and lowers the feed tray turns the micro switch on.
The feed tray is determined to be at its upper limit when the micro switch is on, and the feed tray will not rise any higher.



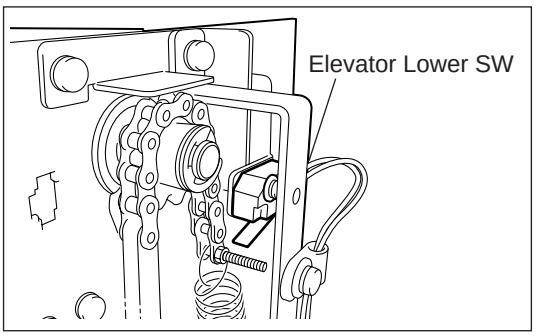
Circuit diagram



(8) Elevator Lower Switch

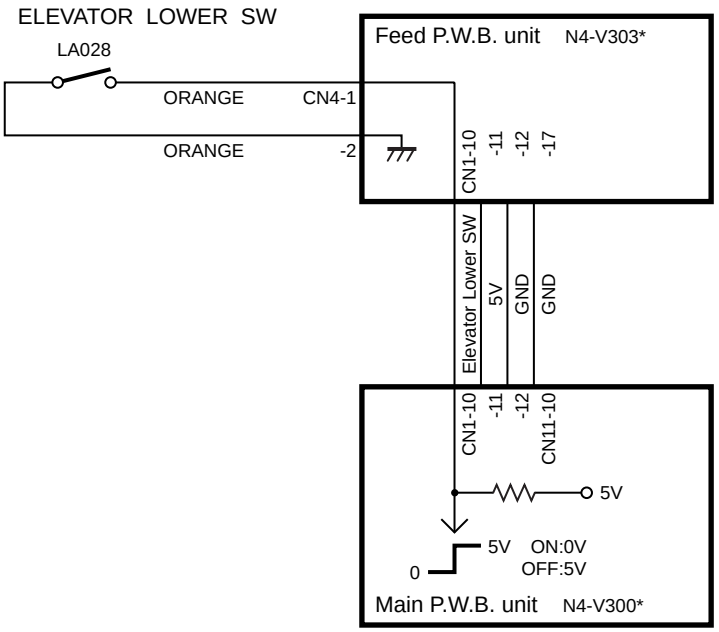
Description

The feed tray stops when the screw that is attached to the chain that raises and lowers the feed tray turns the micro switch on.
The feed tray is determined to be at its lower limit when the micro switch is on, and the feed tray will not go any lower.
If the elevator lower switch is on because there is too much paper loaded on the feed tray, and the paper level sensor is on (light is not transmitted), then a J5: OVER CAPACITY error occurs.



➡See page 133

Circuit diagram

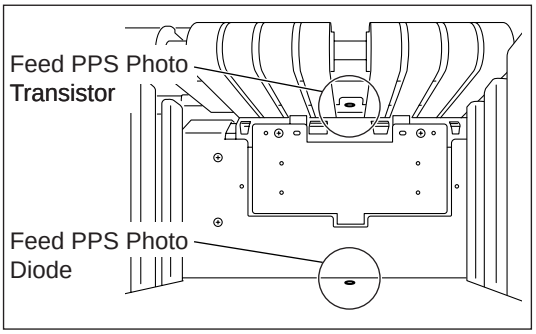


(9) Paper Detection Sensor

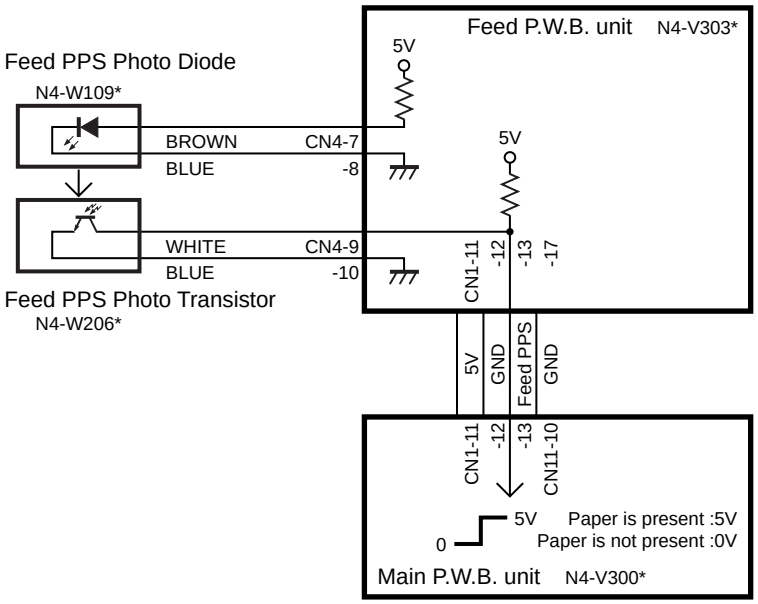
Description

The paper detection sensor detects whether or not there is paper on the feed tray.
If there is no paper, the elevator goes to its lower level and stops.
When there is not paper (light is transmitted) the LED (PAPER) on the operation panel blinks.

Status	Output
Paper is present (light is not transmitted)	5V
Paper is not present (light is transmitted)	0V



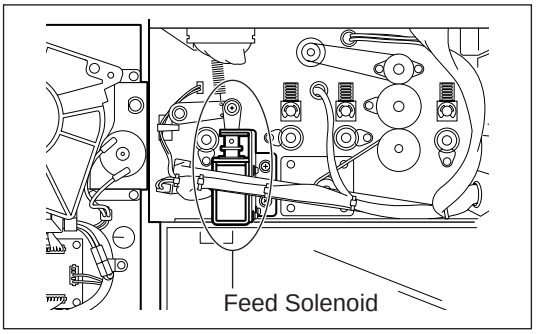
Circuit diagram



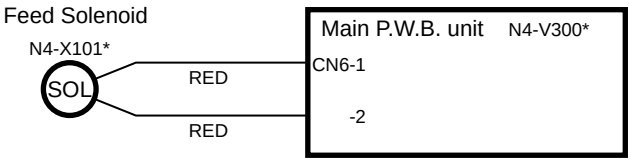
(10) Feed Solenoid

Description

Paper that reaches PPS1 is transferred to the paper path when feeding paper.
As the feed solenoid turns on, the roller driven by the feed stepping motor presses the paper onto the press roller and sends it to the main paper path.



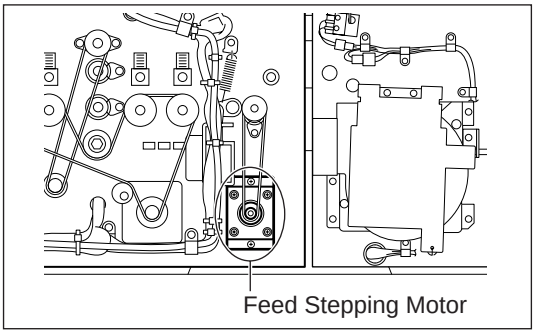
Circuit diagram



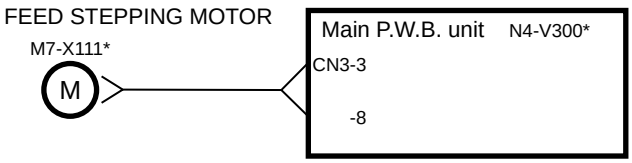
(11) Feed Stepping Motor

Description

Paper that reaches PPS1 is transferred to the main paper path.



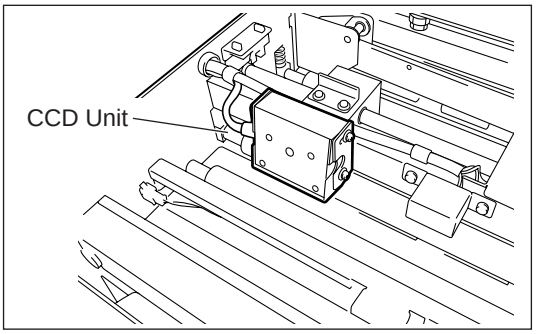
Circuit diagram



2 CCD Mechanism

1. Description

The CCD mechanism reads the bar code and register mark on the paper that is being processed and transfers the data to the main P.W.B. unit.
The job is automatically selected according to the bar code (code 39) and the register mark compensates for incorrect printing positioning.



2. Operation

1) When the paper feeding operation is finished, the CCD starts reading the bar code.
   If the data transfer between the CCD and the main P.W.B. is not done correctly, then E2: RS232C ERROR is displayed and the machine stops.
   If bar code is off go to Step 4.

➡See page 135

2) Data is transferred to the main P.W.B. after the bar code has been read.
   If, when reading starts, the paper is transferred 50 mm but the bar code could not be read, then E3: BARCODE ERROR is displayed and the machine stops.

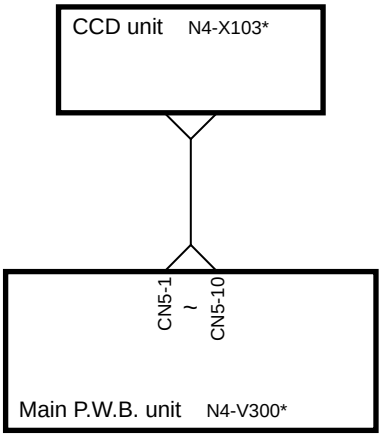
➡See page 135

3) The job is set based on the data in the bar code.
4) The machine is in standby until each slitter has been moved.
   If register mark is turned off go to Step 9.
5) The front edge of the paper backs up to PPS2 temporarily.
6) The CCD starts to read the register mark.
7) The amount of compensation is calculated after the register mark has been read.
   If the register mark can not be read even though the paper has been transferred 40 mm after reading has started, then E4: REG. MARK ERROR is displayed and the machine stops.

➡See page 135

8) The position of each slitter, cutter and scorer is adjusted.
9) The CCD processing is finished.

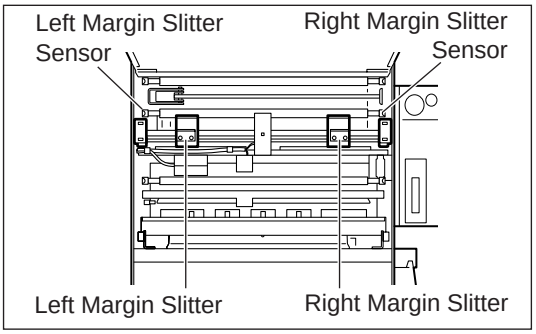
Circuit diagram

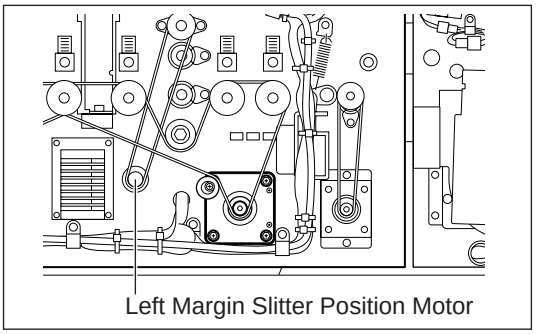


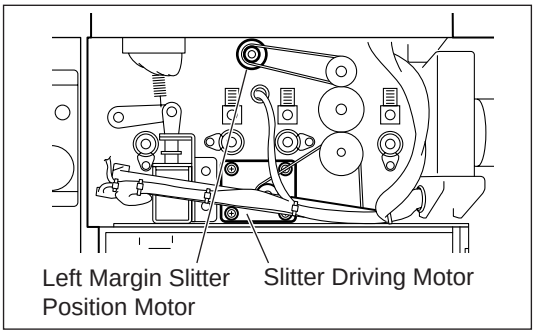
3 Margin Slitter

1. Description

The margin slitter position motor starts, turning the lead screw, and the margin slitter is moved to the designated position.
These slitters are used for removing the left and right margins to the waste tray.







2. Operation

1) After paper feeding has finished (after the feed stepping motor stops) the margin slitter returns to the home position under the following conditions.
   ① The first process after the power was turned on.
   ② After all the covers have been opened.
   ③ After the machine stops due to an error.
   ④ There is no paper in the feed tray, after paper is loaded in the feed tray again.
   ⑤ After the job has been changed.
2) When the margin slitter moves from the home position to the position indicated for the job, if the margin slitter moves 8 mm and light is still not being transmitted at the slitter sensor, then E5: SLITTER ERROR is displayed and the machine stops.

➡See page 136

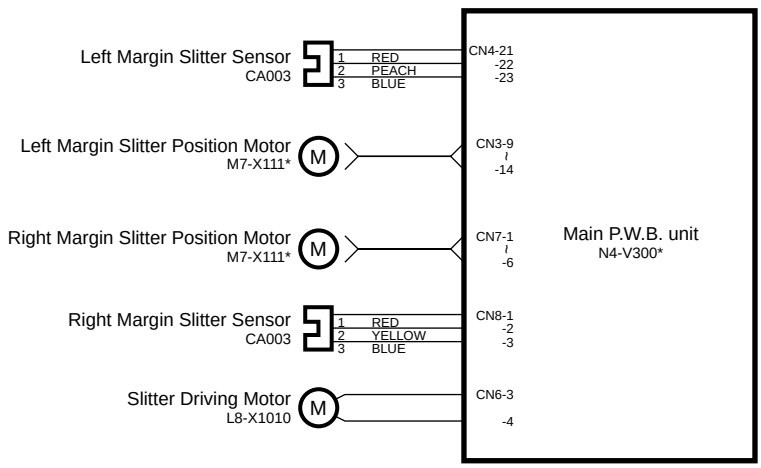
Possible range for each slitter

Name	Possible range
Left Margin Slitter	0 to 120 mm
Right Margin Slitter	200 to 320 mm

NOTE :

- **3.2 mm is the smallest possible margin width.**

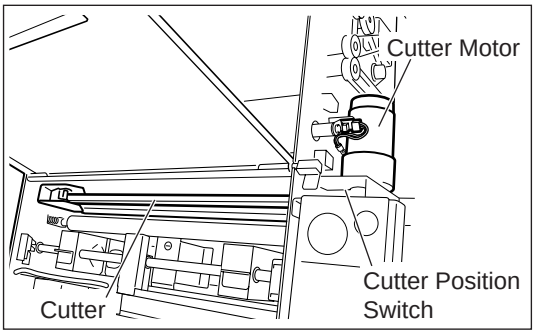
Circuit diagram



4 Guillotine Cutter Unit

1. Description

The paper is cut vertically in relation to the direction the paper is moving.
Turning on the power starts the cutter motor in standby in the home position.
One cut can be done in approximately 0.3 seconds.

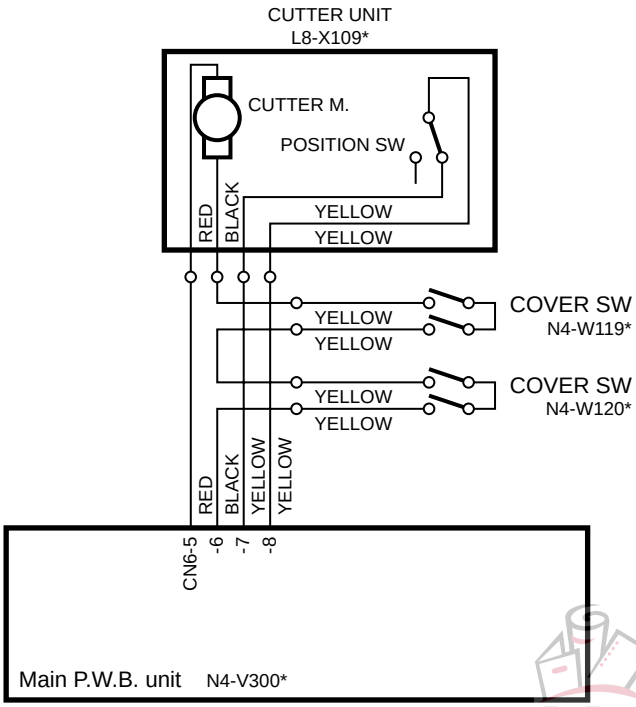


2. Operation

1) Main transfer stops temporarily when the paper reaches the cutting position.
2) The cutter motor starts and cutting begins.
3) The cutter motor stops when the cutter position sensor goes from off to on, and the main transfer starts again. If the cutter position sensor does not change (if its on then it stays on) 0.6 seconds after the cutter motor starts running, then J7: CUTTER LOCK is displayed and the machine stops.

➡See page 134

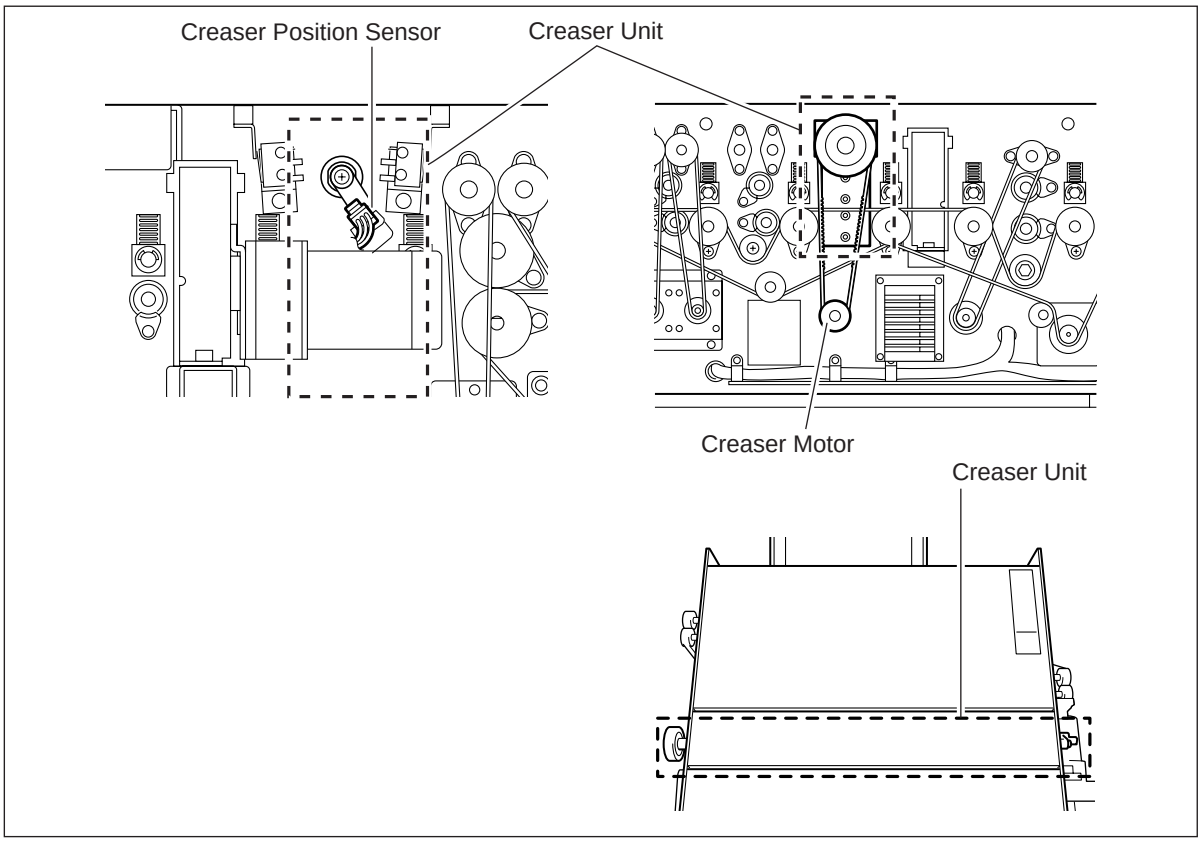
Circuit diagram



5 Creaser Unit

1. Description

The paper is creased vertically in relation to the direction the paper is moving.
One crease can be done in approximately 1.5 seconds.
Turning on the power starts the creaser motor in standby in the home position.

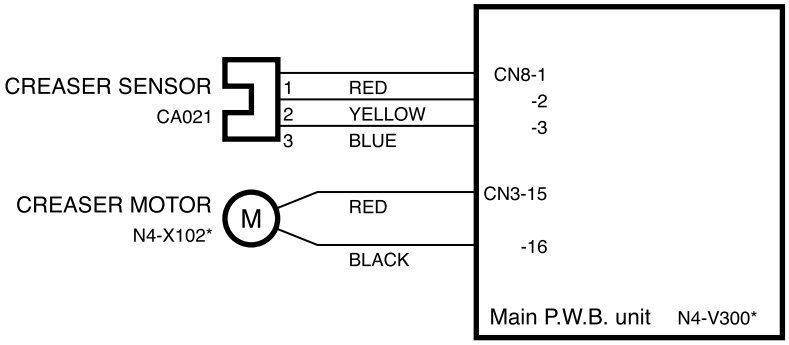


2. Operation

1) Main transfer stops temporarily when the paper reaches the crease position.
2) The creaser motor starts and cutting begins.
3) The creaser motor stops when the creaser position sensor goes from off to on, and the main transfer starts again. If the creaser position sensor does not change (if light is transmitted then it continues to transmit) 2.0 seconds after the creaser motor starts running, then J8: CREASE LOCK is displayed and the machine stops.

➡See page 134

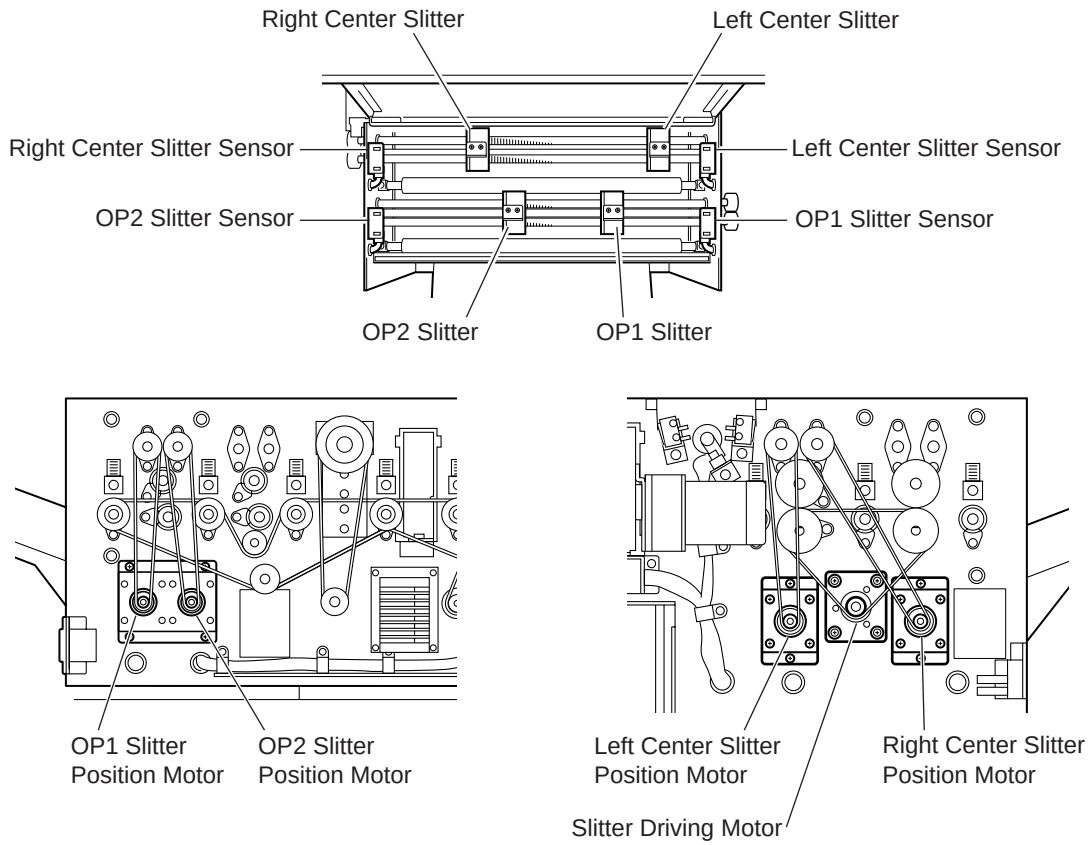
Circuit diagram



6 Center Slitter

1. Description

The slitter position motor starts, turning the lead screw, and the center slitter is moved to the designated position and the paper is cut horizontally in reference to the direction the paper is moving.
A maximum of 4 center slitters can be installed.



2. Operation

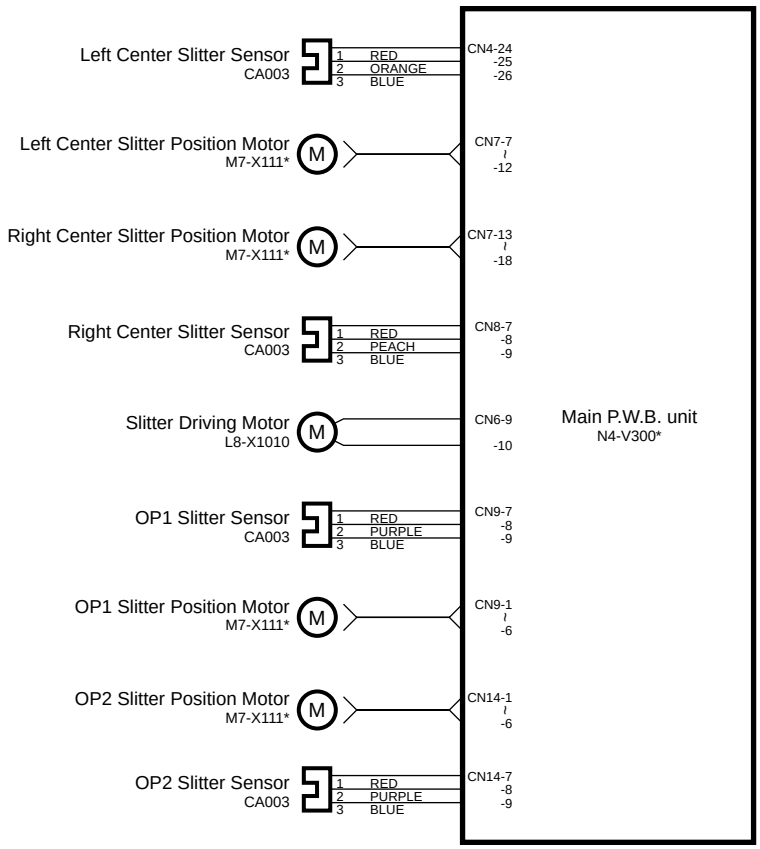
1) After paper feeding has finished (after the feed stepping motor stops) the center slitter returns to the home position under the following conditions.
   ① The first process after the power was turned on.
   ② After all the covers have been opened.
   ③ After the machine stops due to an error.
   ④ There is no paper in the feed tray, after paper is loaded in the feed tray again.
   ⑤ After the job has been changed.
2) When the margin slitter moves from the home position to the position indicated for the job, if the margin slitter moves 8 mm and light is still not being transmitted at the slitter sensor, then E5: SLITTER ERROR is displayed and the machine stops.

➡See page 136

Possible range for each slitter

Name	Possible range	Comments
Left center slitter Right center slitter	0 to 160 mm Left center slitter position +50 mm to 320 mm	Example: When the left center slitter is set at 120.2 mm, settings from 170.2 are possible.
OP1 slitter	0 to 320 mm (when OP2 is not installed.) 0 to 160 mm (OP2 is installed)	
OP2 slitter (This is an optional slitter)	OP1 position +50 mm to 320 mm	Example: When the OP1 is set at 110.0 mm, settings from 160.0 mm are possible.

Circuit diagram

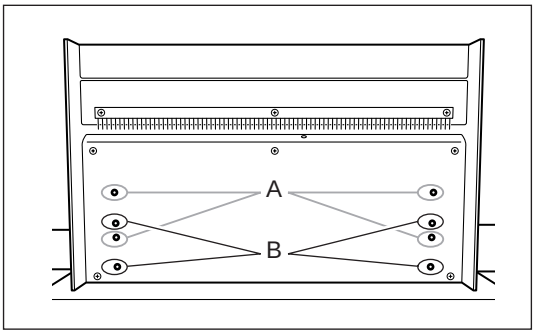


7 Paper Eject Tray

1. Description

Paper that is ejected from the DC-545 is collected here. It is possible to adjust the paper being ejected into two levels. Refer to the image below for the installation position.

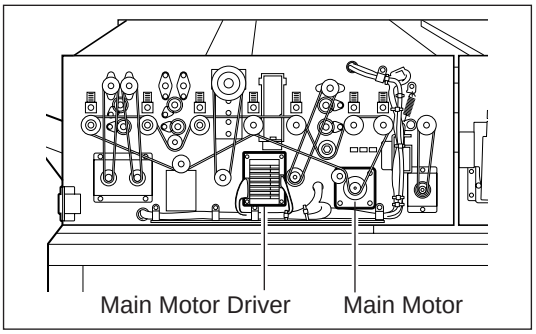
Position	
A	Ejected amount.....too small
B	Ejected amount.....too large

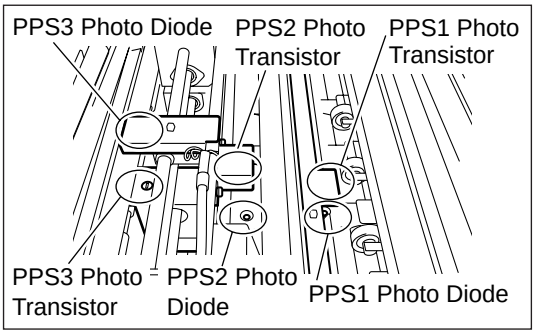


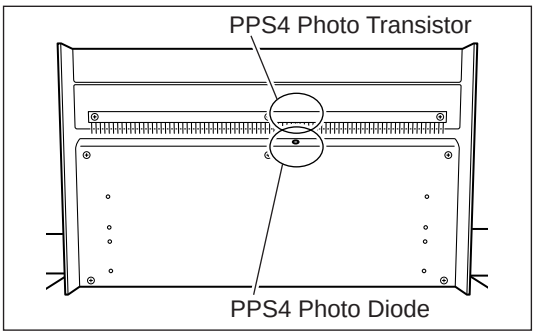
8 Main Drive

1. Description

The paper is transferred by the main motor.
All the rollers except the rollers driven by the feed stepping motor use two timing belts driven by the main motor.







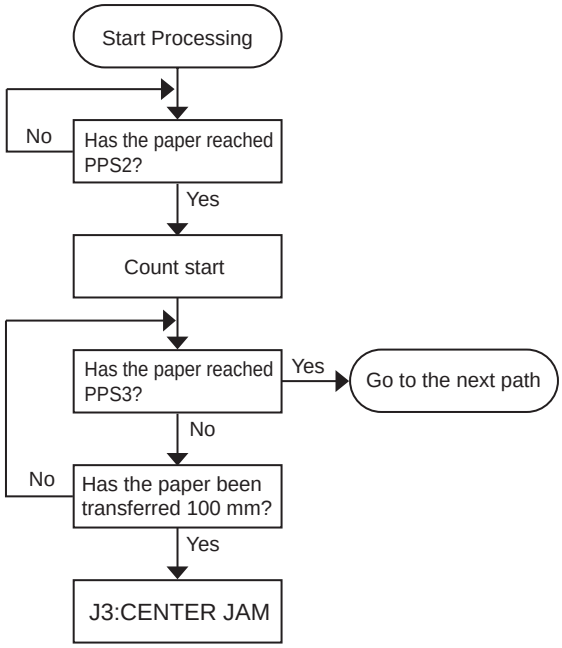
2. Operation

1) After paper stops being fed (after the Feed Stepping Motor stops) the Main Motor starts running and the paper is transferred to the paper path section.
2) The paper stops temporarily at the CCD and then continues being transferred. If read BAR CODE (REGISTER MARK) has been set, then the paper continues being transferred after the BAR CODE (REGISTER MARK) has been read.
3) Main motor stops temporarily when cutting and scoring. When cutting and scoring have finished, transfer starts again, and stops a short period after the paper is ejected.

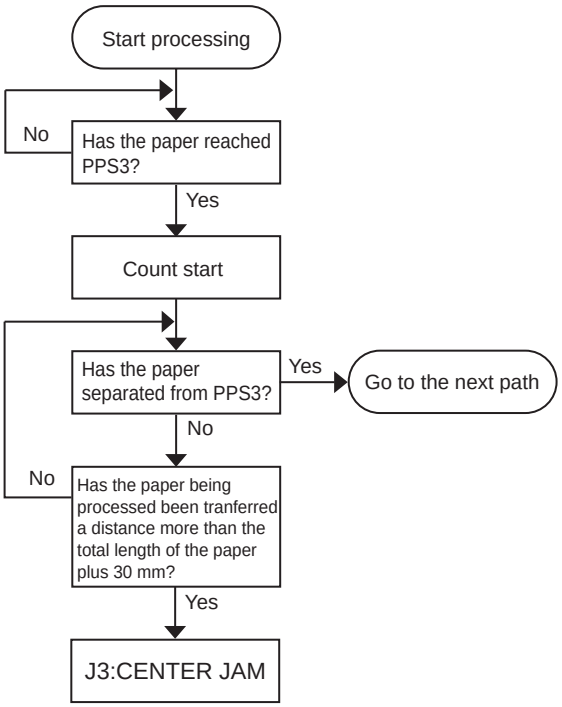
The below two conditions cause J3: CENTER JAM to be displayed, and the machine to stop.

➡See page 133

① When paper does not reach PPS3 (PPS3 is not transmitting light) although the paper has transferred 100 mm from after the front edge of the paper has reached PPS2 (PPS2 is not transmitting light).



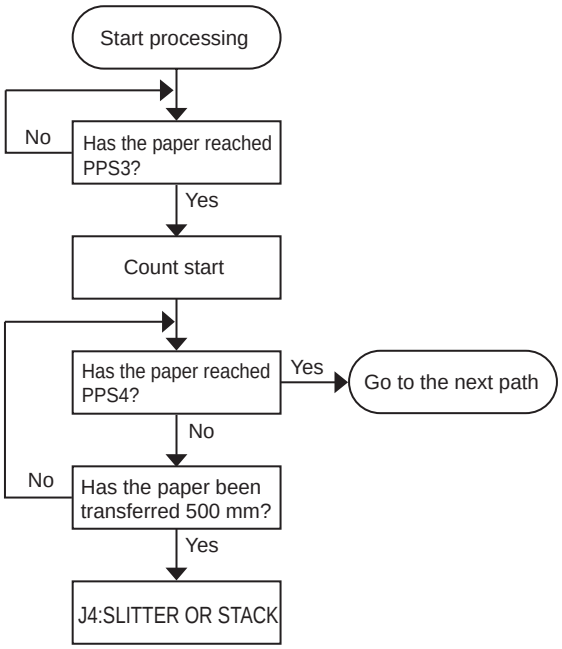
② When paper is not extracted from PPS3 (PPS3 is not transmitting light) although the total length of the paper +30 mm has been transferred from after the front edge of the paper has reached PPS3 (PPS3 is not transmitting light).



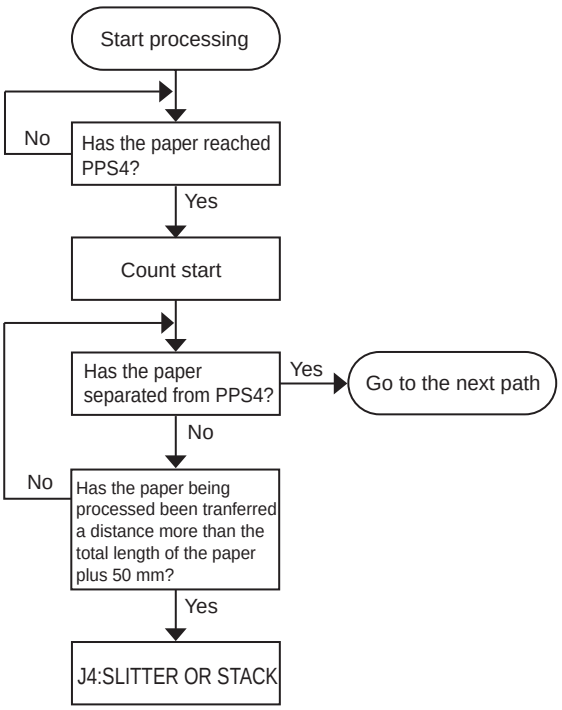
The below two conditions cause J4: SLITTER OR STACK to be displayed, and the machine to stop.

➡See page 133

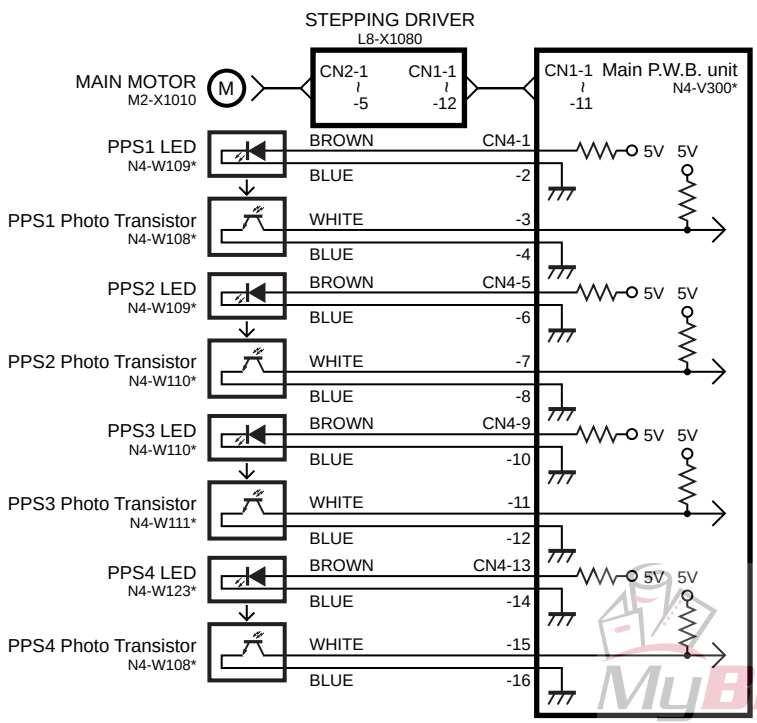
① When paper does not reach PPS4 (PPS4 is not transmitting light) although the paper has transferred 500 mm from after the front edge of the paper has reached PPS3 (PPS3 is not transmitting light).



② When paper is not extracted from PPS4 (PPS4 is not transmitting light) although the total length of the paper +50 mm has been transferred from after the front edge of the paper has reached PPS4 (PPS4 is not transmitting light).



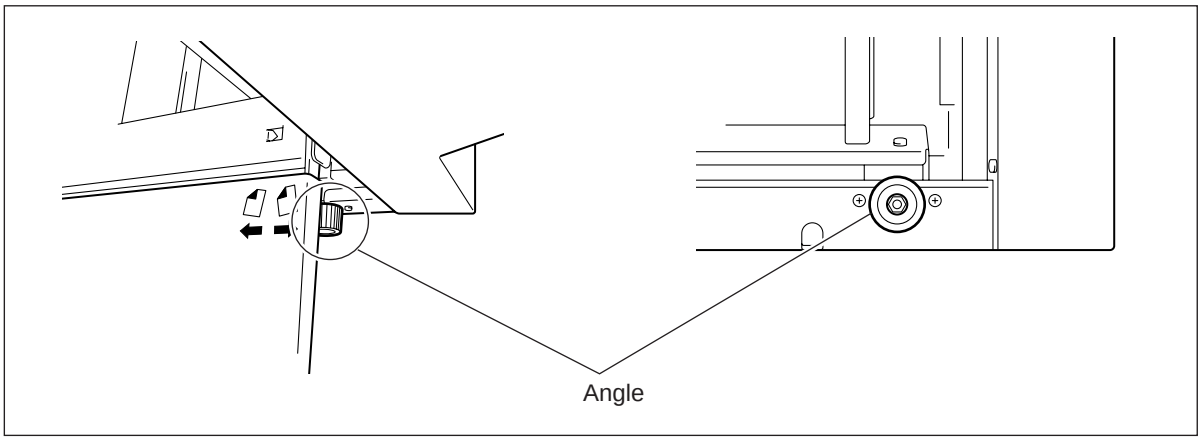
Circuit diagram



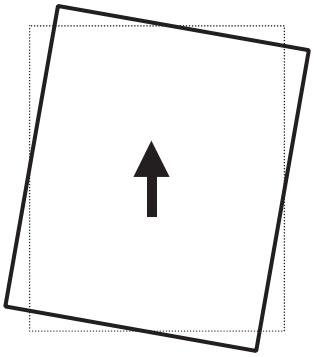
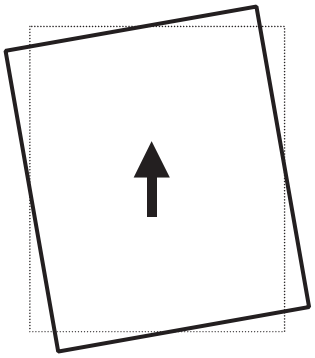
9 Skew Adjustment Mechanism

1. Description

If the paper is skewed while processing , use the adjustment knob to adjust the guide and straighten paper.



Adjustment procedure

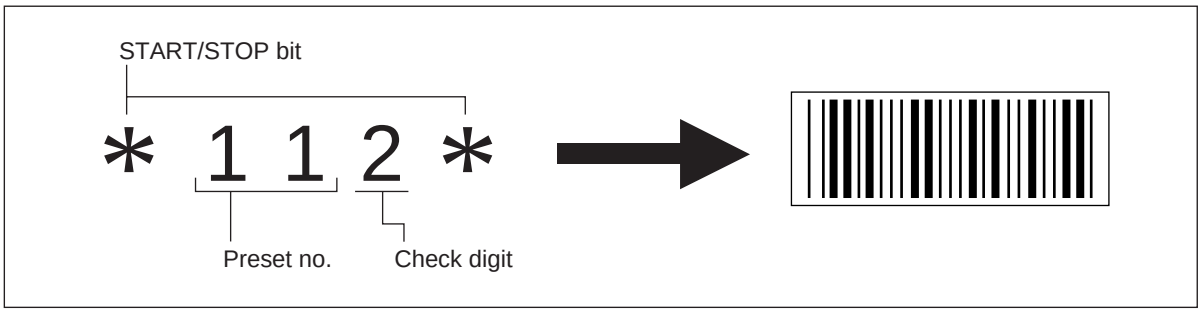
①	②
Turning the knob counterclockwise	Turning the knob clockwise
	

10 BAR CODE

1. Description

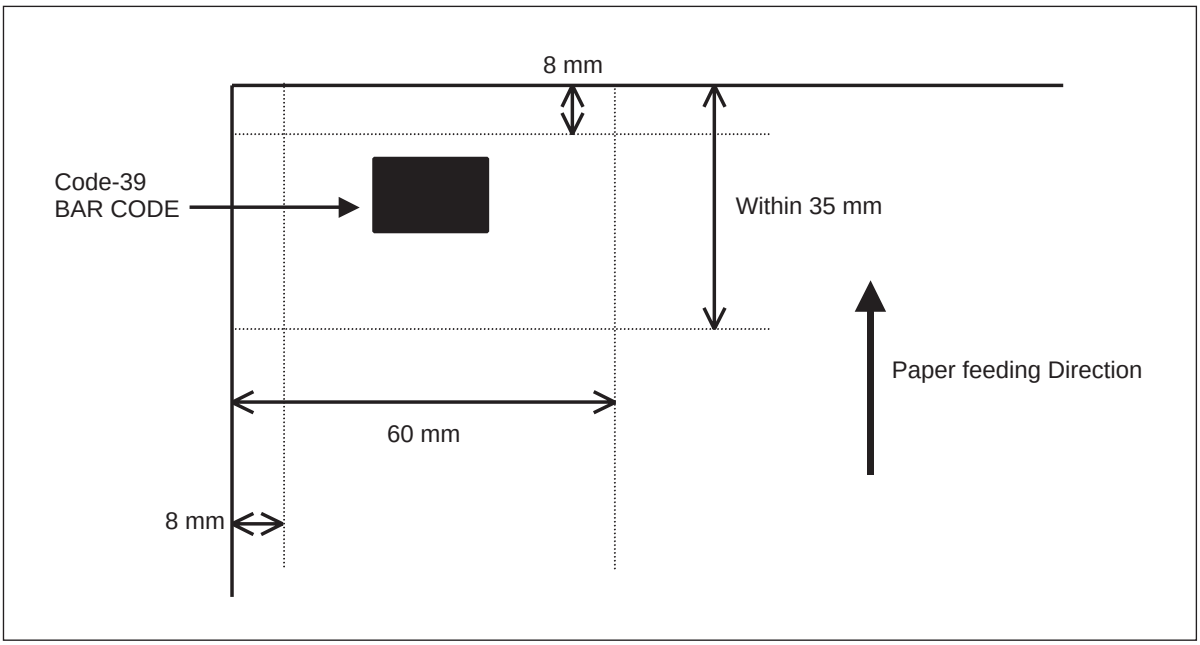
This machine uses code 39 bar code.

Example: The bar code for P-11 is shown below.

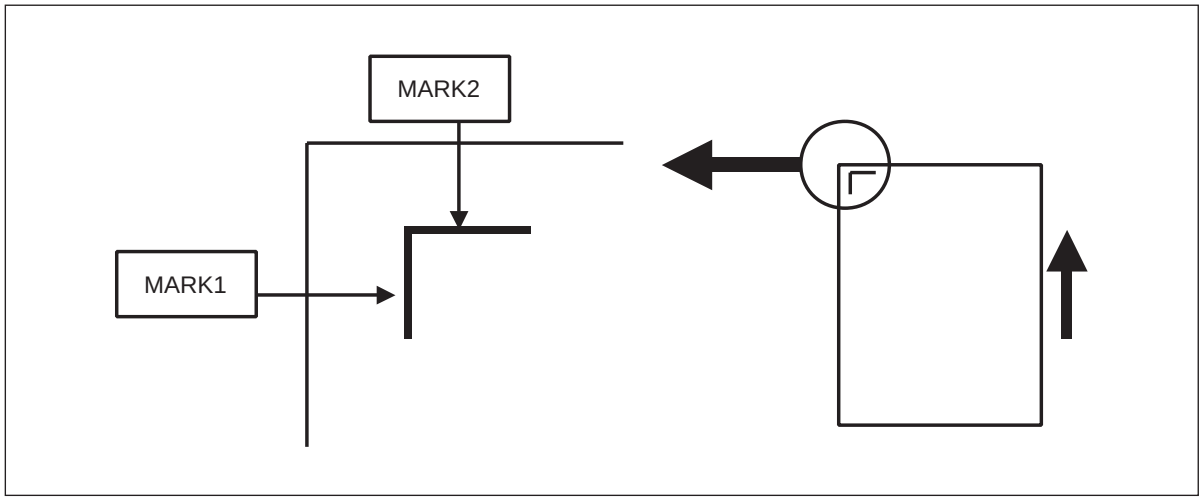


The DC-545 can use this bar code if it is converted to CODE-39.

If the bar code comes in the following range, the CCD automatically replaces the data and sends the data (preset no.) to the DC-545.

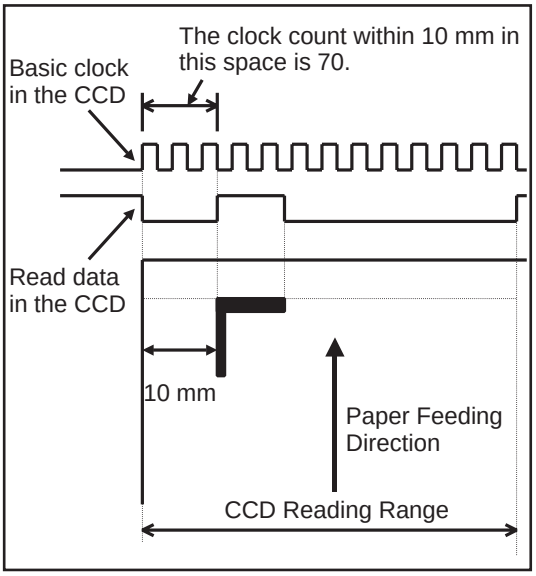


11 REGISTER MARK



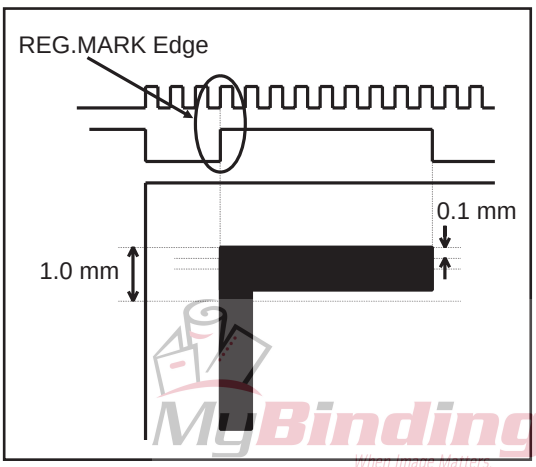
Mark 1

1) The paper is transferred in increments of 0.1 mm from PPS2, and the mark is read by the CCD.
2) When the edge of the reg. mark is detected, the reference clock count in the CCD is stored in the buffer in the microcomputer.
3) After another 0.1 mm is transferred, it is compared with the clock count before the position of the edge is detected, and if it is within a fixed range, the count is then +1, and the reference clock in the CCD is stored in the microcomputer buffer (up to 10 items). The count is cleared if it is outside the range.
4) When the counter reaches 45 (the edge is the same for 4.5 mm) the value for the mark is the average of the values of the 10 values for the reference clock in the buffer in the CCD.

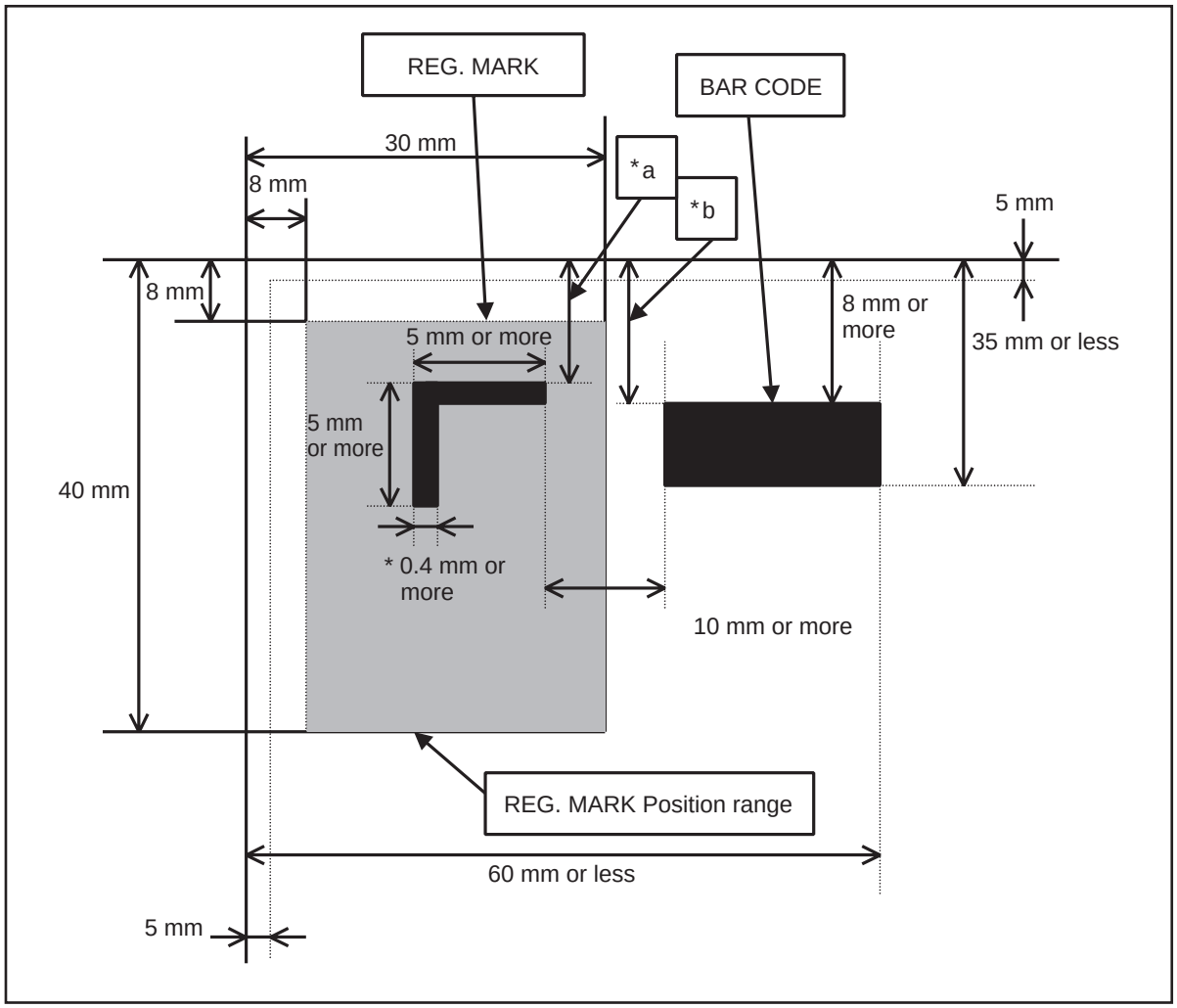


Mark 2

1) The edge of the REGISTER MARK is detected.
2) The paper is transferred in increments of 0.1 mm, and the mark is read by the CCD. If the REGISTER MARK has the position of the detected edge (it is OK even if it is not the edge), if the counter is not +1, the counter goes to 0 and returns to Step 1.
3) The position of mark 2 is determined as 1.0 mm before the position when a continuous count of 10 (1.0 mm) is read for the REGISTER MARK.



Positioning REGISTER MARK and BAR CODE



* The width of Reg. Mark line is 0.4 mm or more.
* a<=b

Chapter 3 Mechanical

1 Exterior 49
(1) Removing the AF 100 Cover R Unit 49
(2) Removing the AF 100 Cover L Unit 49
(3) Removing the DC 545 Cover R Unit 49
(4) Removing the DC 545 Cover L Unit 50
(5) Removing the Lid 50
(6) Removing the Front Cover Switch 50
(7) Removing the Rear Cover Switch 51

2 Feed Section 52
(1) Removing the AF 100 52
(2) Removing the Suction Assembly 53
(3) Removing the Flat Belts 53
(4) Removing the Fan Motor (Blower) 53
(5) Removing the Feed PCB Unit 54
(6) Removing the Separator 54
(7) Removing the Elevator Upper Switch 54
(8) Removing the Elevator Lower Switch 55
(9) Removing the Paper Level Sensor 55
(10) Removing the Feed Motor 56
(11) Removing the Shutter Solenoid 56
(12) Removing the Shutter 57
(13) Removing the AF 100 Cover Switch 58
(14) Removing the Elevator Motor 58
(15) Removing the Fan Motor (Suction) 58

3 CCD Section 59
(1) Removing the CCD Sensor 59

4 Margin Slitter Section 60
(1) Removing the Margin Slitter Driving Motor 60
(2) Removing the Right Margin Slitter Position Motor 60
(3) Removing the Left Margin Slitter Position Motor 61
(4) Removing the Right Margin Slitter Sensor 62
(5) Removing the Left Margin Slitter Sensor 62
(6) Removing the Right Margin Slitter 63
(7) Removing the Left Margin Slitter 64
(8) Removing the Margin Slitter's Upper Blade 65
(9) Removing the Margin Slitter's Lower Blade 66

5 Cutter Section 67
(1) Removing the Cutter Assembly 67
(2) Removing the Cutter Motor 67
(3) Removing the Cutter Position Switch 68

6 Creaser Section 69
(1) Removing the Creaser Motor 69
(2) Removing the Creaser Sensor 69
(3) Removing the Creaser Assembly 70

7 Center Slitter Section 71
(1) Removing the Center Slitter Drive Motor 71
(2) Removing the Center Right Slitter Positioning Motor 71
(3) Removing the Center Left Slitter Positioning Motor 71
(4) Removing the Optional Slitter 1 Positioning Motor 72
(5) Removing the Optional Slitter 2 Positioning Motor 72
(6) Removing the Center Right Slitter Sensor 73
(7) Removing the Center Left Slitter Sensor 73
(8) Removing the Optional Slitter 1 Sensor 74
(9) Removing the Optional Slitter 2 Sensor 74
(10) Removing the Center Right Slitter and the Center Left Slitter 75
(11) Removing the Optional Slitter 1 and the Optional Slitter 2 76
(12) Removing the Center Slitter's Upper Blade 77
(13) Removing the Center Slitter's Lower Blade ... 78

8 **Driving Section 79**
(1) Removing the Main Motor 79
(2) Removing the Feed Stepper 79
(3) Removing the 1st Roller (Lower) 80
(4) Removing the 2nd and 3rd Rollers (Lower) 80
(5) Removing the 4th Roller (Lower) 81
(6) Removing the 5th Roller (Lower) 82
(7) Removing the 6th and 7th Rollers (Lower) 83
(8) Removing the 8th Roller (Lower) 84

9 **Electric Section 85**
(1) Removing the PPS1 Phototransistor 85
(2) Removing the Panel PWB Unit 85
(3) Removing the Motor Driver 86
(4) Removing the PPS2 Phototransistor and PPS3 Photodiode 86
(5) Removing the PPS1 and PPS2 Photodiode 87
(6) Removing the PPS3 Phototransistor 88
(7) Removing the Feed Solenoid 89
(8) Removing the Gate Solenoid (Without using the DC 545HC) 89
(9) Removing the Main P.W.B. Unit 90
(10) Removing the Power Supply, Power Board, and Memory Board 90

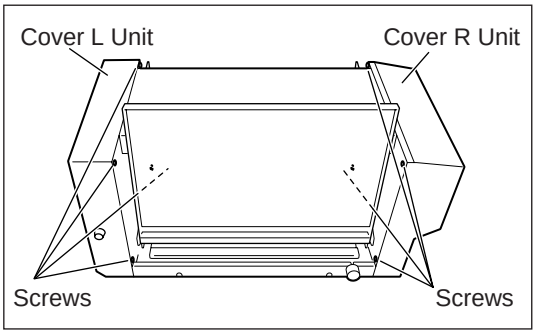
1 Exterior

(1) Removing the AF-100 Cover R Unit

① Remove the AF-100 from the stand.

➡See page 52

② Take out the 4 screws, and remove the cover R unit.



(2) Removing the AF-100 Cover L Unit

① Remove the AF-100 from the stand.

➡See page 52

② Take out the 4 screws, and remove the cover L unit.

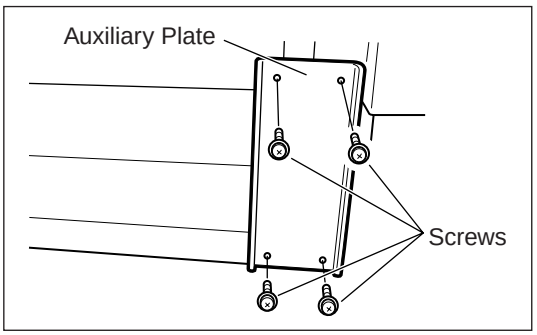
(3) Removing the DC-545 Cover R Unit

① Remove the AF-100 from the stand.

➡See page 52

② Take out the 4 screws, and remove the auxiliary plate.

③ Take out the 4 screws, and remove the cover R unit.



NOTE :

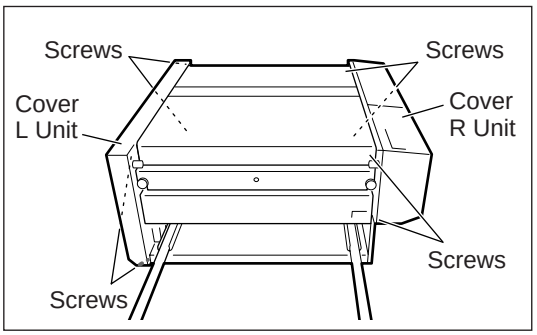
- **Be sure to attach the auxiliary plate after attaching the cover.**

(4) Removing the DC-545 Cover L Unit

① Remove the AF-100 from the stand.

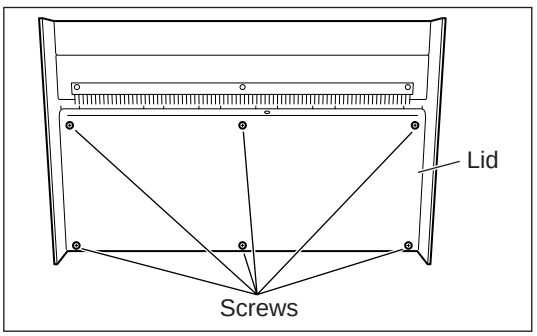
➡See page 52

② Take out the 4 screws, and remove the cover L unit.



(5) Removing the Lid

① Take out the 6 screws, and remove the lid.



(6) Removing the Front Cover Switch

① Remove the cover R unit from the DC-545.

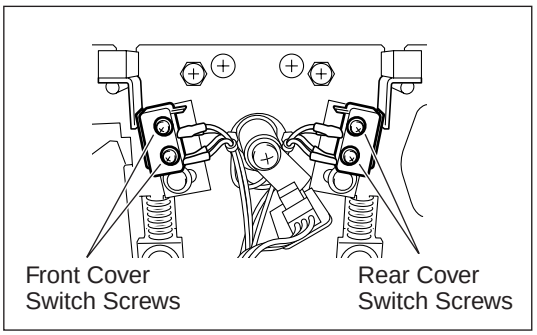
➡See page 49

② Remove the cutter motor.

➡See page 67

③ Remove the connector for the switch. (2 positions)

④ Take out the 2 screws, and remove the front cover switch.



Reinstallation

IMPORTANT:

- **Adjust the position in which to install the cover switch.**

➡See page 112

(7) Removing the Rear Cover Switch

① Remove the cover R unit from the DC-545.

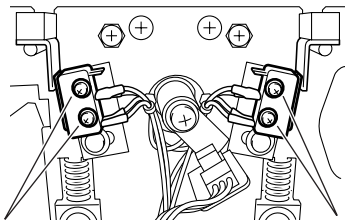
➡See page 49

② Remove the cutter motor.

➡See page 67

③ Remove the connector. (1 position)

④ Take out the 2 screws, and remove the rear cover switch.



Front Cover Switch Screws

Rear Cover Switch Screws

Reinstallation

IMPORTANT:

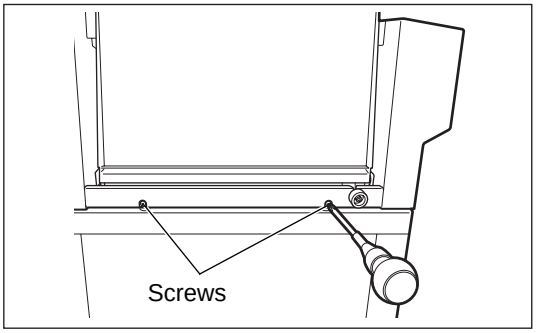
- **Adjust the position in which to install the cover switch.**

➡See page 112

2 Feed Section

(1) Removing the AF-100

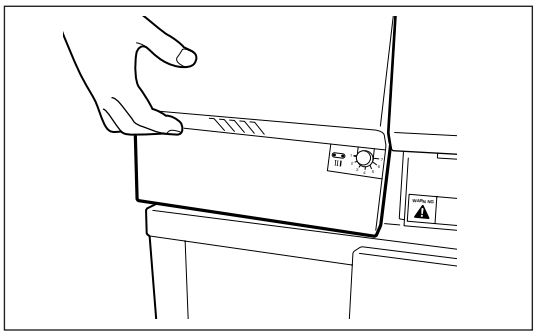
① Take out the two screws.



NOTE :

- **The machine made to U.S. specifications has no screws.**

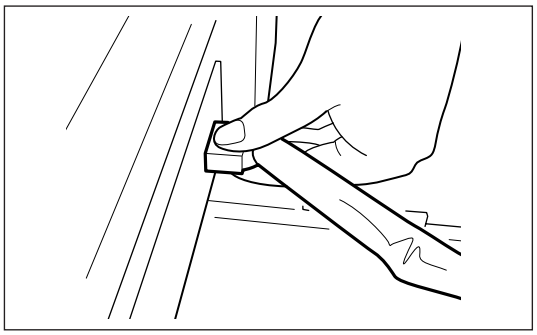
② Remove the DC-545 and AF-100 connector.



IMPORTANT:

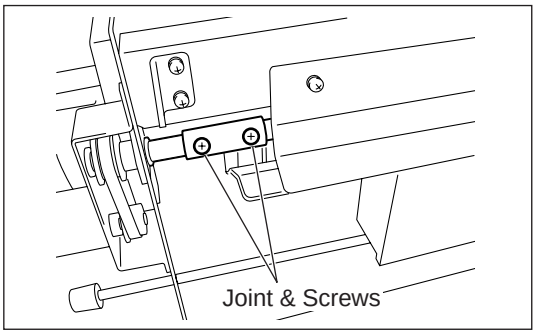
- **Be sure to remove the power cord from the electric outlet before starting work. Not doing so may damage the main P.W.B. unit.**

③ Remove the AF-100.



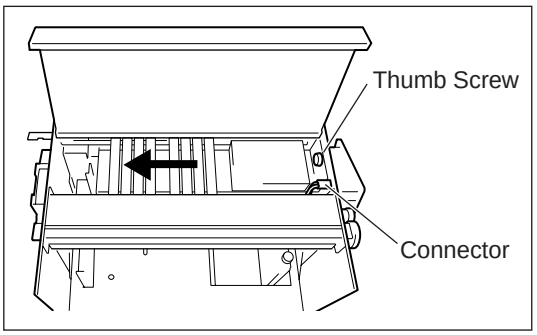
(2) Removing the Suction Assembly

① Take out the 2 screws, and remove the joint.



② Remove the thumb screw and connector. (1 each)

③ Remove the suction assembly.

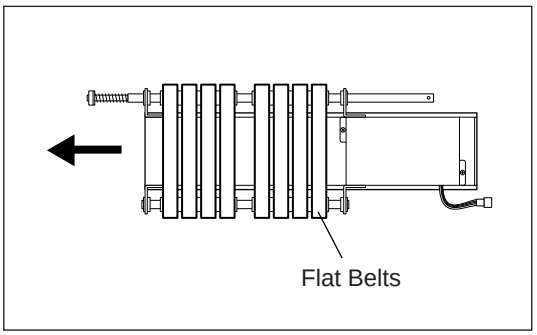


(3) Removing the Flat Belts

① Remove the suction assembly.

➡See page 53

② Slide the flat belts off to remove them.



(4) Removing the Fan Motor (Blower)

① Remove the AF-100 cover L unit.

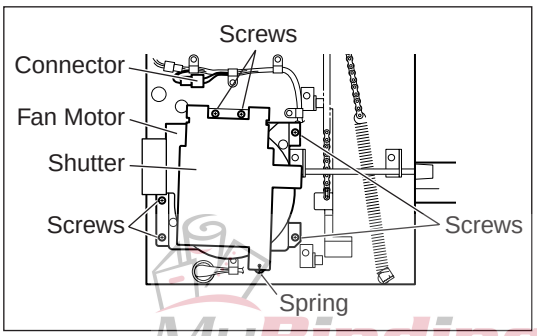
➡See page 49

② Remove the connector for the fan motor. (1 position).

③ Remove the spring.

④ Take out the 2 screws, and remove the shutter.

⑤ Remove the 4 screws, and remove the fan motor (blower).



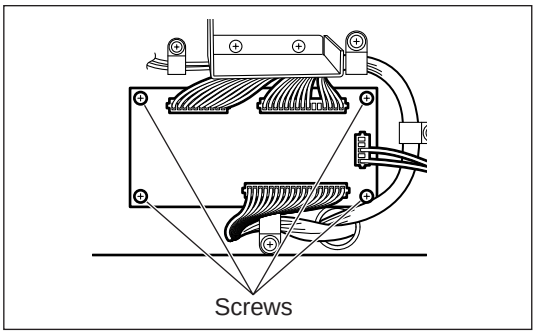
(5) Removing the Feed PCB Unit

① Remove the AF-100 cover R unit.

➡See page 49

② Remove the connector for the feed PCB unit. (4 positions)

③ Take out the 4 screws, and remove the feed PCB unit.

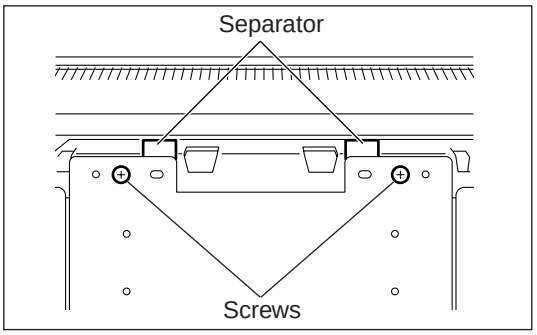


(6) Removing the Separator

① Remove the suction assembly.

➡See page 53

② Take out the 2 screws, and remove the separator.



(7) Removing the Elevator Upper Switch

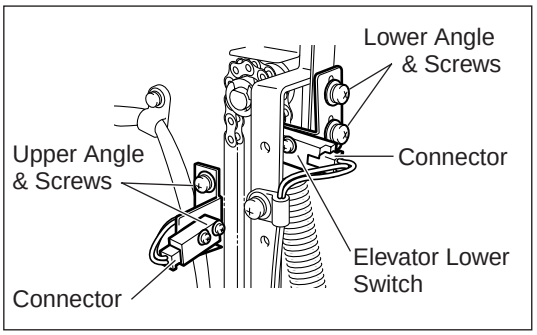
① Remove the AF-100 cover L unit.

➡See page 49

② Remove the connector for the upper switch. (1 position)

③ Take out the 2 screws, and remove the angle.

④ Take out the 2 screws, and remove the elevator upper switch.



Reinstallation

IMPORTANT:

- **Adjust the position in which to install the upper switch.**

➡See page 111

(8) Removing the Elevator Lower Switch

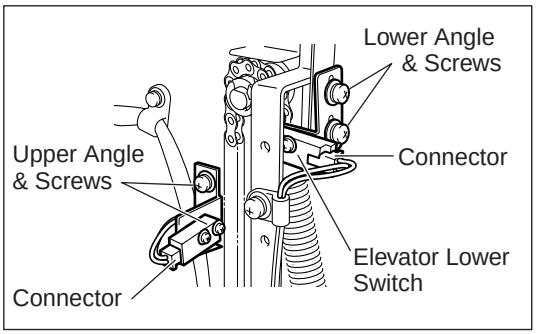
① Remove the AF-100 cover L unit.

➡See page 49

② Remove the connector for the lower switch. (1 position).

③ Take out the 2 screws, and remove the angle.

④ Take out the 2 screws, and remove the elevator lower switch.



Reinstallation

IMPORTANT:

- **Adjust the position in which to install the lower switch.**

➡See page 111

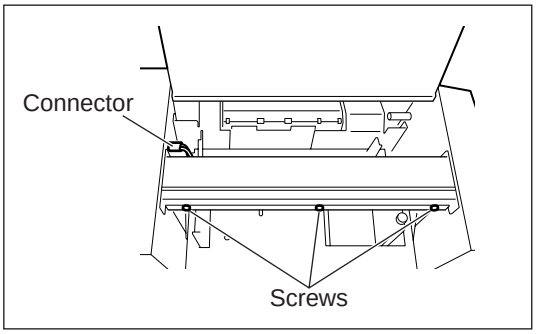
(9) Removing the Paper Level Sensor

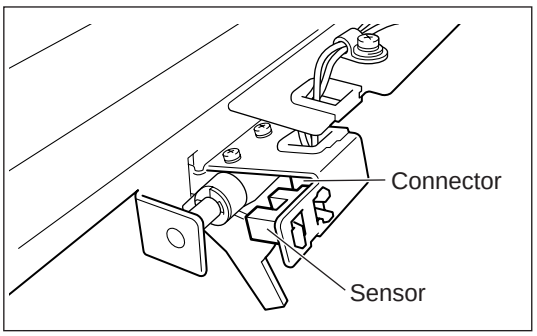
① Open the cover of the AF-100.

② Remove the connector from the inside of the frame. (1 position)

③ Take out the 3 screws, and remove the plate unit.

④ Remove the connector for the sensor, and then remove the paper level sensor.





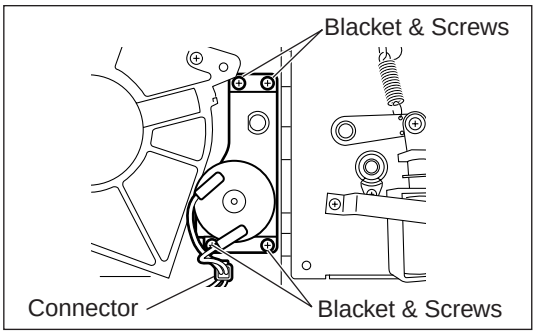
(10) Removing the Feed Motor

① Remove the AF-100 cover R unit.

➡See page 49

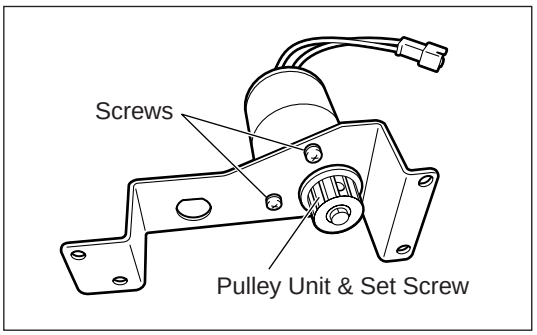
② Remove the connector for the motor. (1 position)

③ Take out the 4 screws, and remove the bracket.



④ Loosen the set screws, and remove the pulley unit.

⑤ Take out the 3 screws, and remove the feed motor.

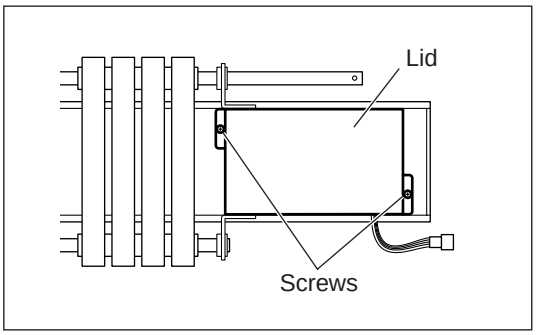


(11) Removing the Shutter Solenoid

① Remove the suction assembly.

➡See page 53

② Take out the 2 screws, and remove the lid.

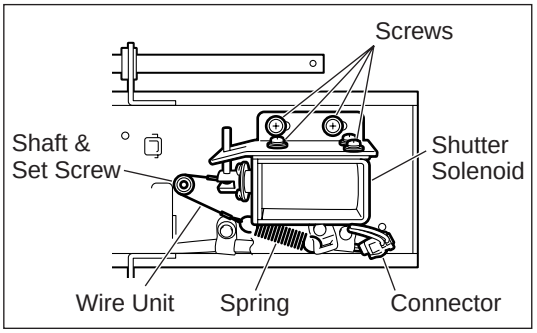


③ Remove the connector for the solenoid. (1 position)

④ Remove the wire unit from the spring.

⑤ Loosen the set screws on the shaft, and remove the wire unit.

⑥ Take out the 2 screws, and remove the shutter solenoid.



Reinstallation

IMPORTANT:

- **Adjust the shutter position when install the shutter solenoid.**

➡See page 113

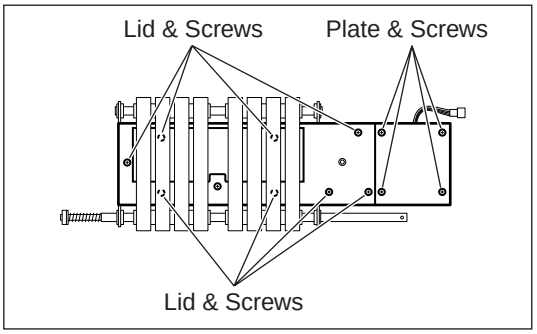
(12) Removing the Shutter

① Remove the Shutter Solenoid.

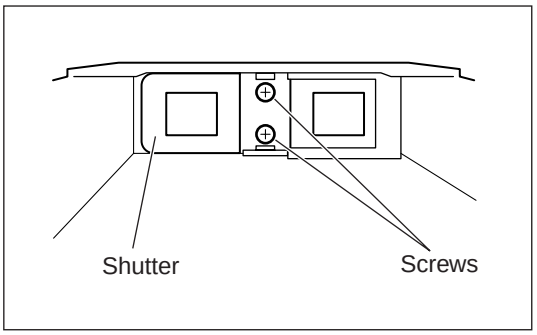
➡See page 56

② Take out the 4 screws, and remove the plate.

③ Take out the 8 screws, and remove the lid.



④ Take out the 2 screws, and remove the shutter.



Reinstallation

IMPORTANT:

- **Adjust the shutter position when install the shutter solenoid.**

➡See page 113

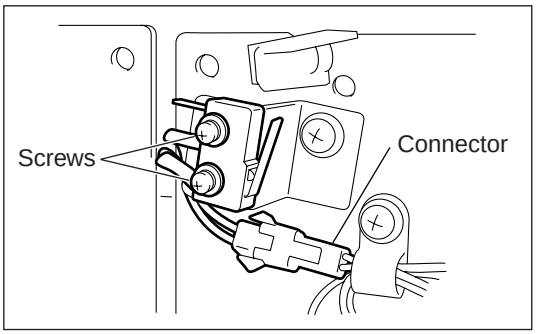
(13) Removing the AF-100 Cover Switch

① Remove the AF-100 cover L unit.

➡See page 49

② Remove the connector for the switch. (1 position)

③ Take out the 2 screws, and remove the AF-100 cover switch.



Reinstallation

IMPORTANT:

- **Adjust the position in which to install the AF-100 cover switch.**

➡See page 112

(14) Removing the Elevator Motor

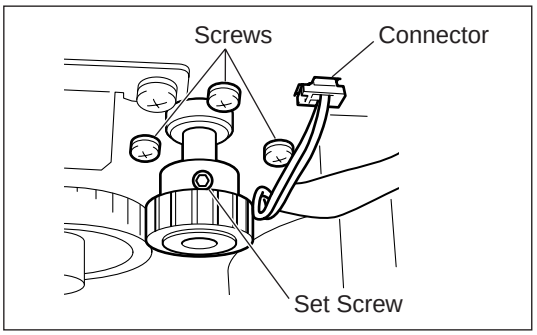
① Remove the AF-100 cover R unit.

➡See page 49

② Loosen the set screws, and remove the motor gear.

③ Take out the 3 screws, and remove the motor.

④ Remove the connector from inside the frame. (1 position)



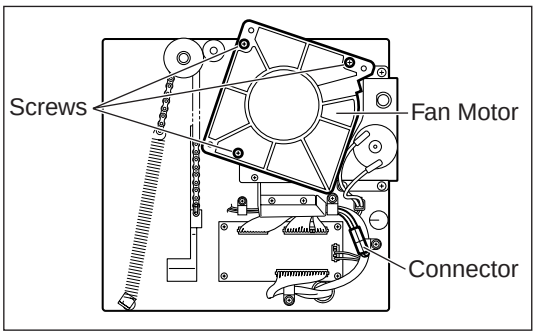
(15) Removing the Fan Motor (Suction)

① Remove the AF-100 cover R unit.

➡See page 49

② Remove the connector for the fan motor. (1 position)

③ Take out the 3 screws, and remove the fan motor.



3 CCD Section

(1) Removing the CCD Sensor

① Remove the cover L unit from the DC-545.

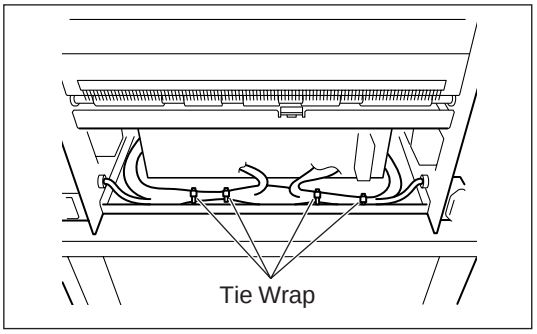
➡See page 50

② Take out the 6 screws, and remove the lid.

➡See page 50

③ Remove the connector for the main PWB CN5. (1 position)

④ Cut the tie wraps. (4 positions)



NOTE :

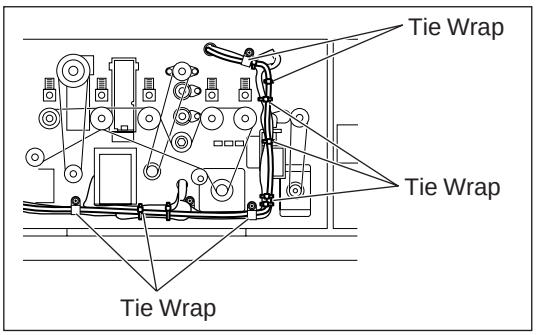
- **Do not cut any other bundles of wires.**

⑤ Remove the code band. (6 positions)

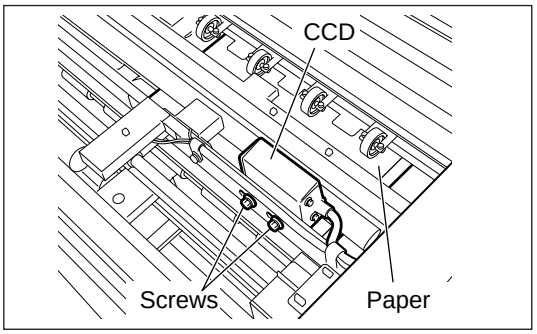
⑥ Cut the tie wraps. (7 positions)

NOTE :

- **Do not cut any other bundles of wires.**



⑦ Take out the 2 screws, and remove the CCD sensor.



Reinstallation

IMPORTANT:

- **Make adjustments after installing the CCD sensor.**

➡See page 102, 109

4 Margin Slitter Section

(1) Removing the Margin Slitter Driving Motor

① Remove the cover R unit from the DC-545.

➡See page 49

② Take out the 2 screws, and remove the bundled cable plate.

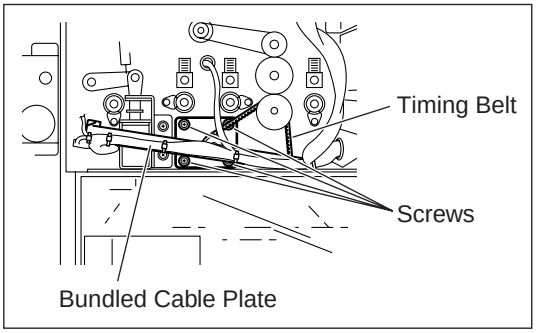
③ Take out the 4 screws, and remove the margin slitter driving motor.

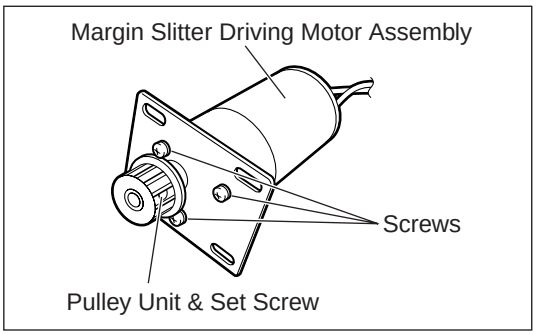
④ Remove the timing belt.

⑤ Extract the motor, and remove the connector. (1 position)

⑥ Take out the set screw, and remove the pulley unit.

⑦ Take out the 3 screws, and remove the margin slitter driving motor.





(2) Removing the Right Margin Slitter Position Motor

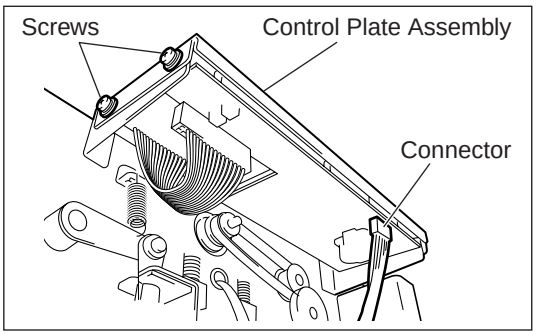
① Remove the cover R unit from the DC-545.

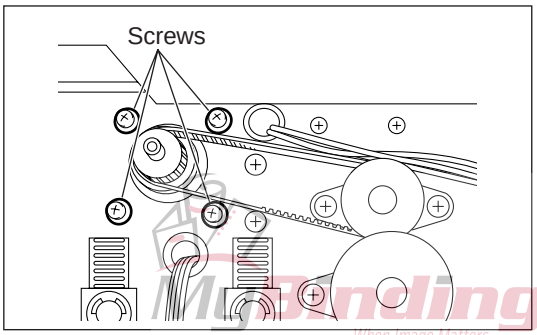
➡See page 49

② Take out the 4 screws, and remove the panel bracket.

③ Take out the 4 screws, and remove the right margin slitter position motor.

④ Remove the connector for the motor. (1 position)





(3) Removing the Left Margin Slitter Position Motor

① Remove the cover L unit from the DC-545.

➡See page 50

② Take out the 6 screws, and remove the lid.

➡See page 50

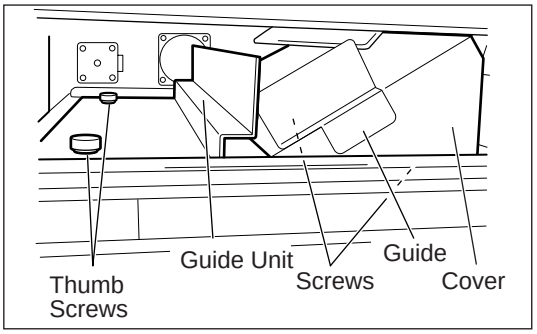
③ Open the door in the stand, and remove the waste tray.

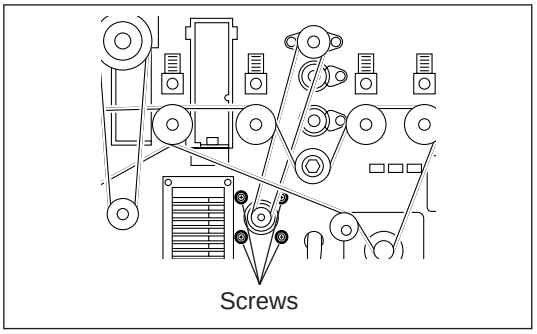
④ Take out the 2 screws, and remove the cover.

⑤ Undo the thumb screws, and remove the guide unit.

⑥ Remove the connector for the motor. (1 position)

⑦ Take out the 4 screws, and remove the left margin slitter position motor.



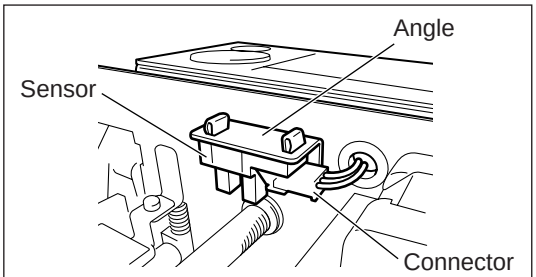


(4) Removing the Right Margin Slitter Sensor

① Open the cover (front) of the DC-545.

② Remove the connector for the sensor. (1 position)

③ Remove the right margin slitter sensor from the angle.



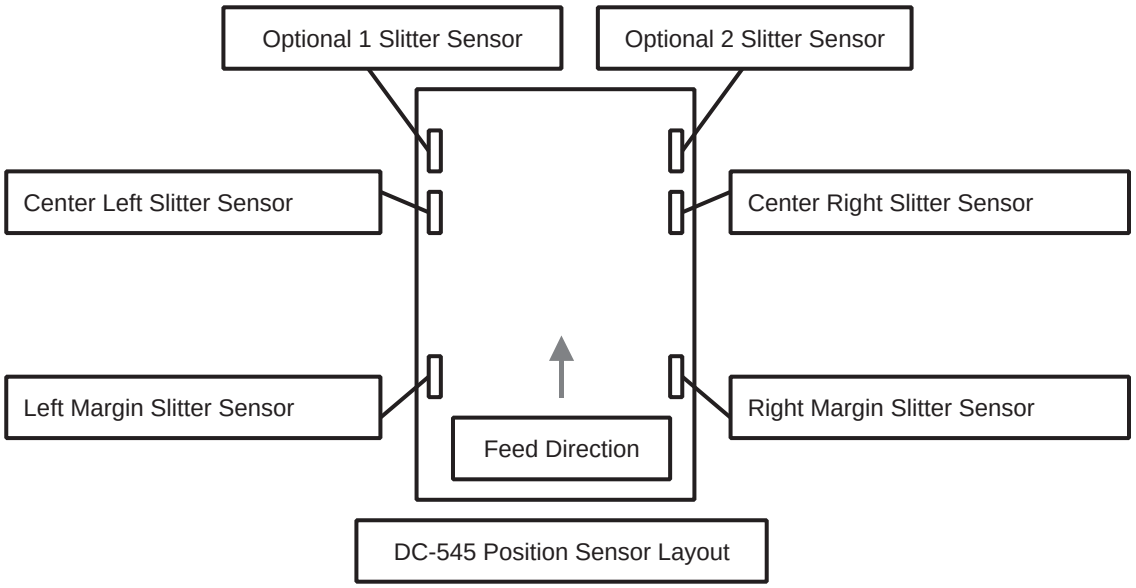
This image shows the right margin slitter sensor.

Reinstallation

IMPORTANT:

- **Make adjustments after installing the sensor.**

➡See page 95



DC-545 Position Sensor Layout

(5) Removing the Left Margin Slitter Sensor

① Open the cover (front) of the DC-545.

② Remove the connector for the sensor. (1 position)

③ Remove the left margin slitter sensor from the angle.

Reinstallation

IMPORTANT:

- **Make adjustments after installing the sensor.**

➡See page 95

(6) Removing the Right Margin Slitter

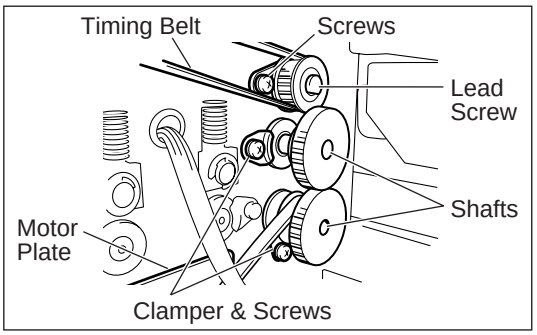
① Remove the cover R unit from the DC-545.

➡See page 49

② Take out the screw, and remove the clamper. (2 positions)

③ Loosen the 4 screws and slide the motor plate towards the exit tray.

④ Face the key groove on the shaft downwards, and pull it out on the operation side. (2 positions)



NOTE :

- **Do not drop the bearings from opposite the operation side into the machinery. (2 positions)**
- **Do not drop the left or right margin slitter key into the machinery. (4 positions)**

⑤ Remove the timing belt.

⑥ Take out the 2 screws, and remove the lead screw.

NOTE :

- **Do not drop the bush that is on the lead screw into the machinery.**

Reinstallation

IMPORTANT:

- **Make adjustments after installing the slitter.**

➡See page 95

- **Adjust the play in the Lead Screw to be less than 0.1 mm.**

(7) Removing the Left Margin Slitter

① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Take out the 1 screw, and remove the clamper on the operation side. (2 positions)

④ Loosen the 4 screws and slide the motor plate towards the feeder.

⑤ Face the key groove on the shaft downwards, and pull it out on the operation side. (2 positions)

NOTE :

- **Do not drop the bearings from opposite the operation side into the machinery. (2 positions)**
- **Do not drop the left or right margin slitter key into the machinery. (4 positions)**

⑥ Remove the timing belt.

⑦ Take out the 2 screws, and remove the lead screw.

NOTE :

- **Do not drop the bush that is on the lead screw into the machinery.**

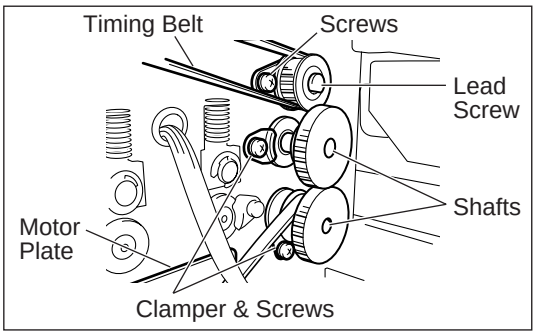
Reinstallation

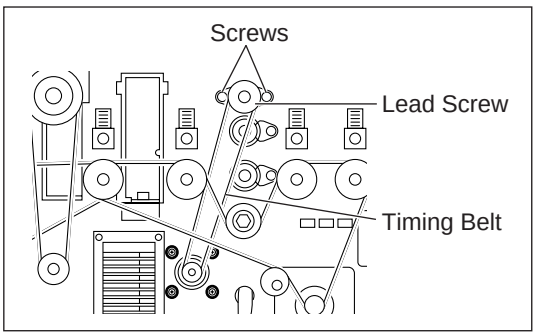
IMPORTANT:

- **Make adjustments after installing the slitter.**

➡See page 95

- **Adjust the play in the Lead Screw to be less than 0.1 mm.**



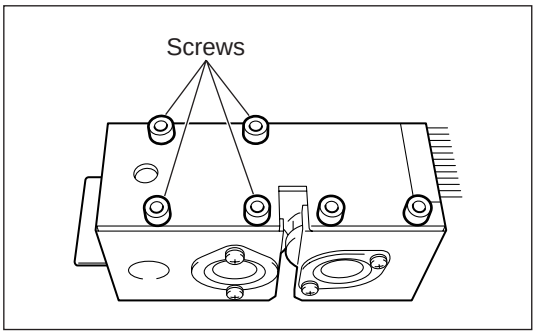


(8) Removing the Margin Slitter's Upper Blade

① Remove the right margin slitter, left margin slitter.

➡See page 63, 64

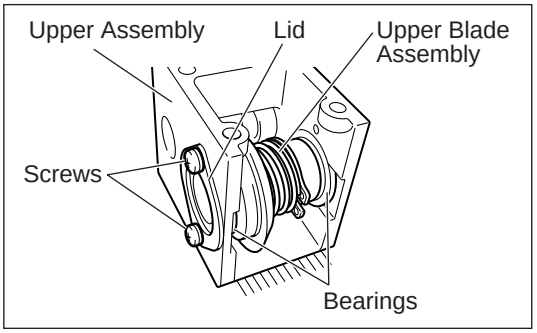
② Take out the 4 screws, and remove the upper assembly.



③ Take out the 2 screws from the upper assembly, and remove the lid. (2 positions)

④ Remove the bearings. (2 positions)

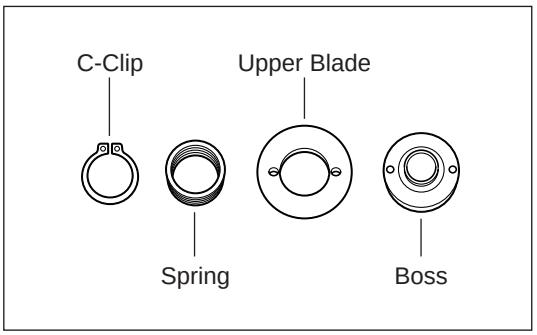
⑤ Remove the upper blade assembly.



NOTE :

- **Be careful not to cut yourself on the edge of the blade.**

⑥ Remove the C-clip, and then remove the disk, spring, and the upper blade.

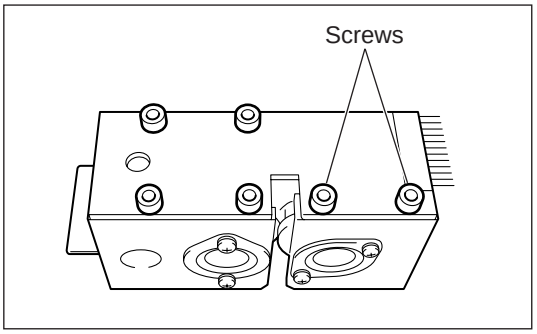


(9) Removing the Margin Slitter's Lower Blade

① Remove the right margin slitter and the left margin slitter.

➡See page 63, 64

② Take out the 2 screws, and remove the lower assembly.

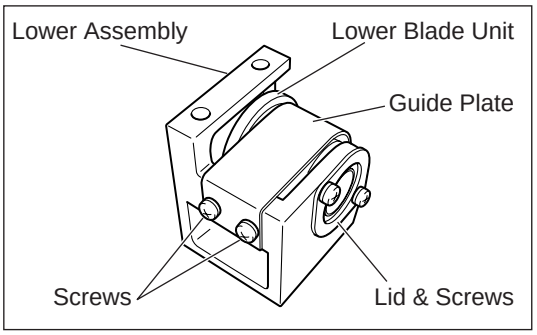


③ Take out the screws from the lower assembly, and remove the guide plate.

④ Take out the 2 screws, and remove the lid. (2 positions)

⑤ Remove the bearing. (2 positions)

⑥ Remove the lower blade unit.



NOTE :

- **Be careful not to cut yourself on the edge of the blade.**

5 Cutter Section

(1) Removing the Cutter Assembly

① Remove the cover R unit from the DC-545.

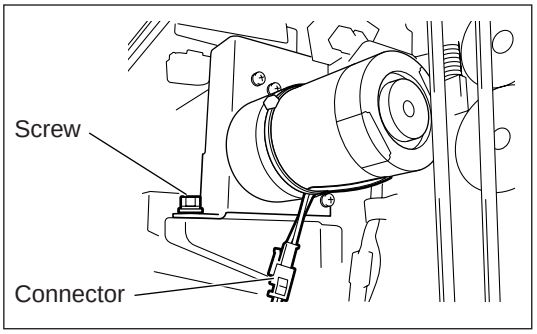
➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Remove the connector for the motor. (1 position)

④ Take out the 2 screws, and remove the cutter assembly.

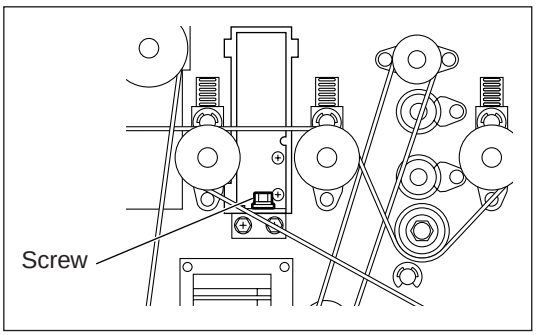


Reinstallation

IMPORTANT:

- **Make adjustments after installing the cutter assembly.**

➡See page 98, 107



(2) Removing the Cutter Motor

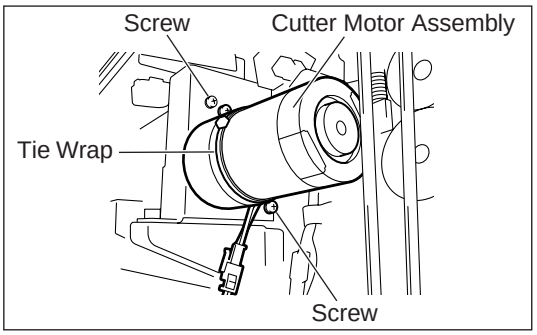
① Remove the cutter assembly.

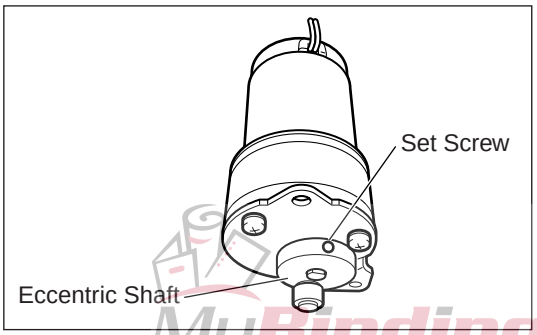
➡See page 67

② Take out the 2 screws, and remove the cutter motor assembly.

③ Loosen the set screws, and remove the eccentric shaft.

④ Take out the 3 screws, and remove the cutter motor.





(3) Removing the Cutter Position Switch

① Remove the cover R unit from the DC-545.

➡See page 49

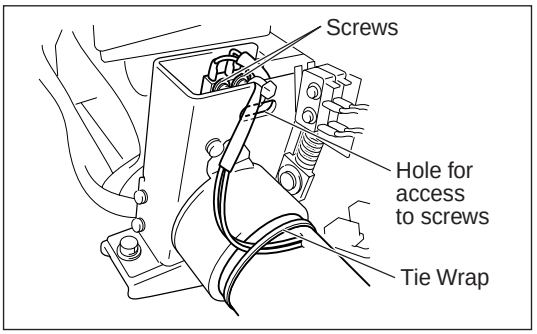
② Cut the tie wrap on the cutter motor wires.

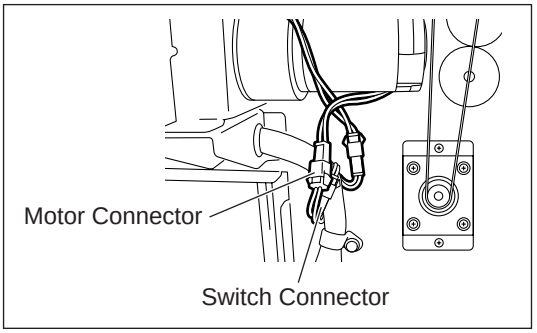
③ Remove the connector for the switch and the motor. (2 positions)

NOTE :

- **Switch wires are yellow and yellow. Motor wires are red and black.**

④ Take out the 2 screws, and remove the cutter position switch.





6 Creaser Section

(1) Removing the Creaser Motor

① Remove the cover L unit from the DC-545.

➡See page 50

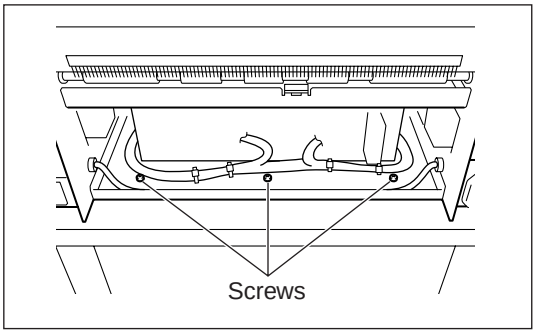
② Take out the 6 screws, and remove the lid.

➡See page 50

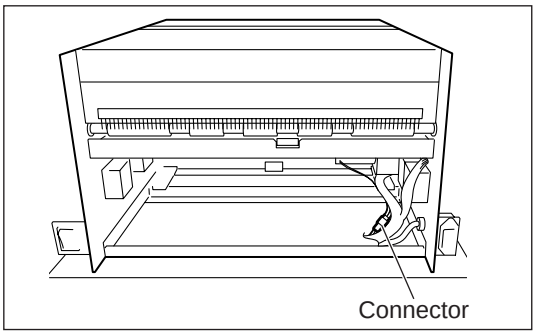
③ Remove the main P.W.B.

➡See page 90

④ Take out the 3 screws, and remove the plate.

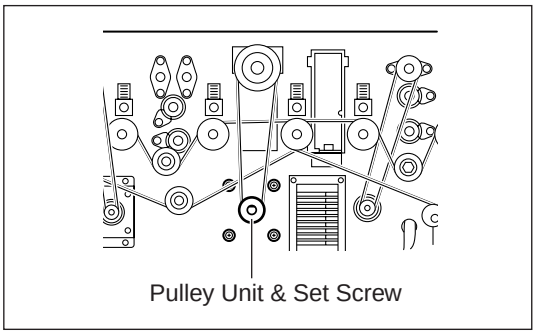


⑤ Remove the motor connector and Power Supply PCB connector.



⑥ Loosen the set screws, and remove the pulley unit.

⑦ Take out the 4 screws, and remove the creaser motor assembly.



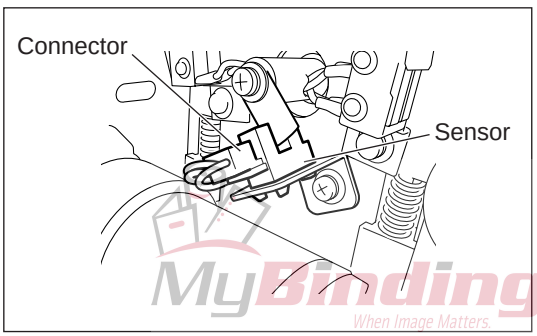
(2) Removing the Creaser Sensor

① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the connector for the sensor. (1 position)

③ Remove the creaser sensor from the sensor angle.



(3) Removing the Creaser Assembly

① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Take out the screw, and remove the cover (front).

④ Take out the screw, and remove the cover (rear).

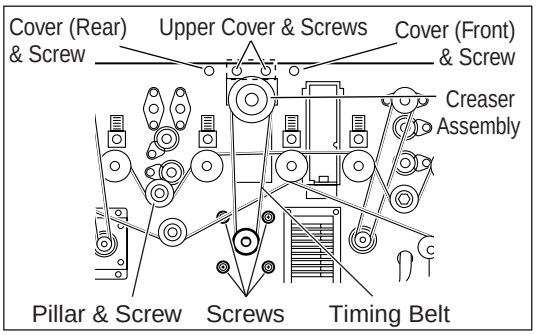
⑤ Take out the 4 screws, and remove the upper cover.

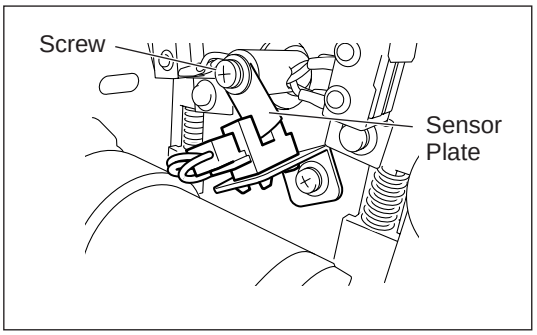
⑥ Take out the 4 screws, and remove the creaser belt.

⑦ Take out the screw, and remove the pillar from the main rear drive.

⑧ Remove the timing belt.

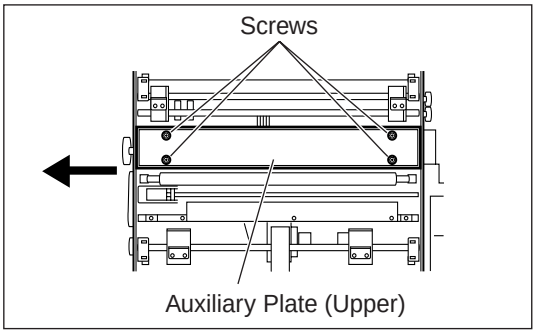
⑨ Take out the screws, and remove the sensor plate.





⑩ Take out the 4 screws from the auxiliary plate (upper).

⑪ Pull the creaser assembly out opposite the operation side.



Reinstallation

IMPORTANT:

- **Make adjustments after installing the creaser assembly.**

➡See page 108

7 Center Slitter Section

(1) Removing the Center Slitter Drive Motor

① Remove the cover R unit from the DC-545.

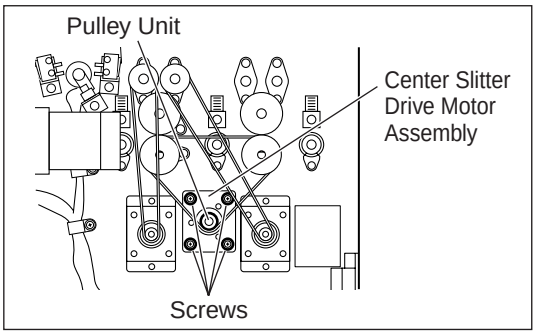
➡See page 49

② Take out the 4 screws, and remove the center slitter drive motor assembly.

③ Remove the connector for the motor. (1 position)

④ Loosen the set screws, and remove the pulley unit.

⑤ Take out the 3 screws, and remove the center slitter drive motor.



(2) Removing the Center Right Slitter Positioning Motor

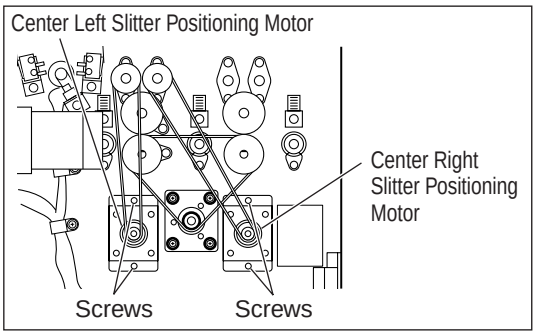
① Remove the cover R unit from the DC-545.

➡See page 49

② Take out the 2 screws, and remove the center right slitter positioning motor assembly.

③ Remove the connector from the motor. (1 position)

④ Take out the 4 screws, and remove the center right slitter positioning motor.



(3) Removing the Center Left Slitter Positioning Motor

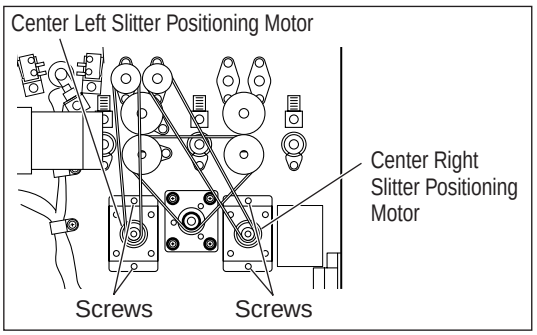
① Remove the cover R unit from the DC-545.

➡See page 49

② Take out the 2 screws, and remove the center left slitter positioning motor assembly.

③ Remove the connector from the motor. (1 position)

④ Take out the 4 screws, and remove the center left slitter positioning motor.



(4) Removing the Optional Slitter 1 Positioning Motor

① Remove the cover L unit from the DC-545.

➡See page 50

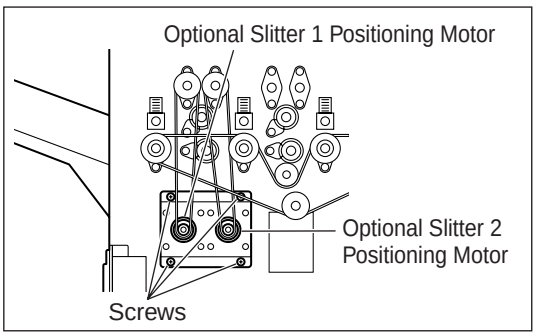
② Take out the 4 screws, and remove the optional slitter positioning motor assembly.

③ Remove the connector from the motor.

NOTE :

- **There are two connectors when the optional slitter 2 positioning motor is installed, but only one connector when it is not installed.**

④ Take out the 4 screws, and remove the optional slitter 1 positioning motor.



(5) Removing the Optional Slitter 2 Positioning Motor

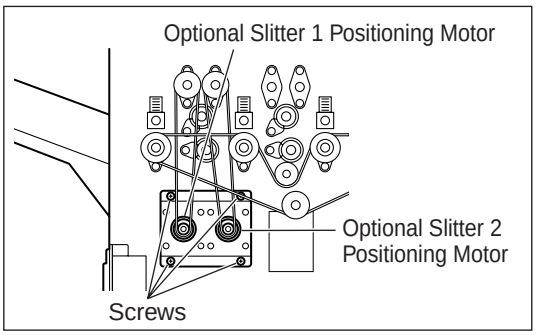
① Remove the cover L unit from the DC-545.

➡See page 50

② Take out the 4 screws, and remove the optional slitter positioning motor assembly.

③ Remove the connector from the motor. (2 positions)

④ Take out the 4 screws, and remove the optional slitter 2 positioning motor.



(6) Removing the Center Right Slitter Sensor

① Open the cover (rear) of the DC-545.

② Remove the connector for the sensor. (1 position)

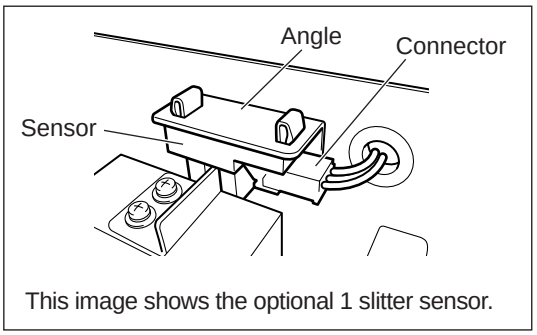
③ Remove the sensor from the angle.

Reinstallation

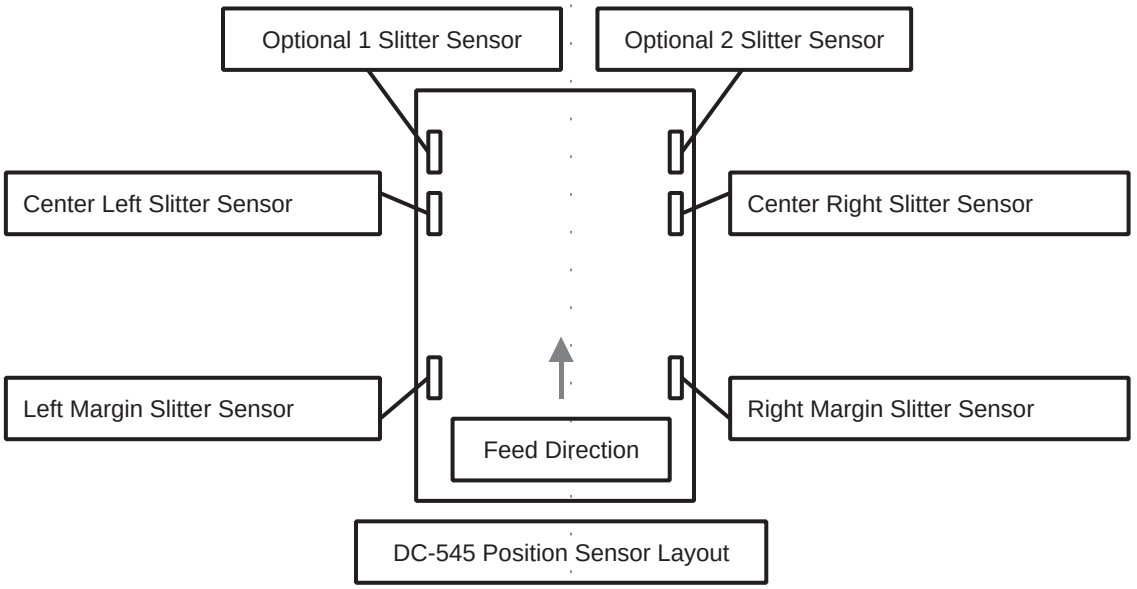
IMPORTANT:

- **Make adjustments after installing the slitter.**

➡See page 95



This image shows the optional 1 slitter sensor.



DC-545 Position Sensor Layout

(7) Removing the Center Left Slitter Sensor

① Open the cover (rear) of the DC-545.

② Remove the connector for the sensor. (1 position)

③ Remove the sensor from the angle.

Reinstallation

IMPORTANT:

- **Make adjustments after installing the slitter.**

➡See page 95

(8) Removing the Optional Slitter 1 Sensor

① Open the cover (rear) of the DC-545.

② Remove the connector for the sensor. (1 position)

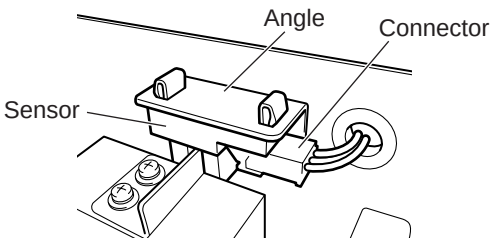
③ Remove the sensor from the angle.

Reinstallation

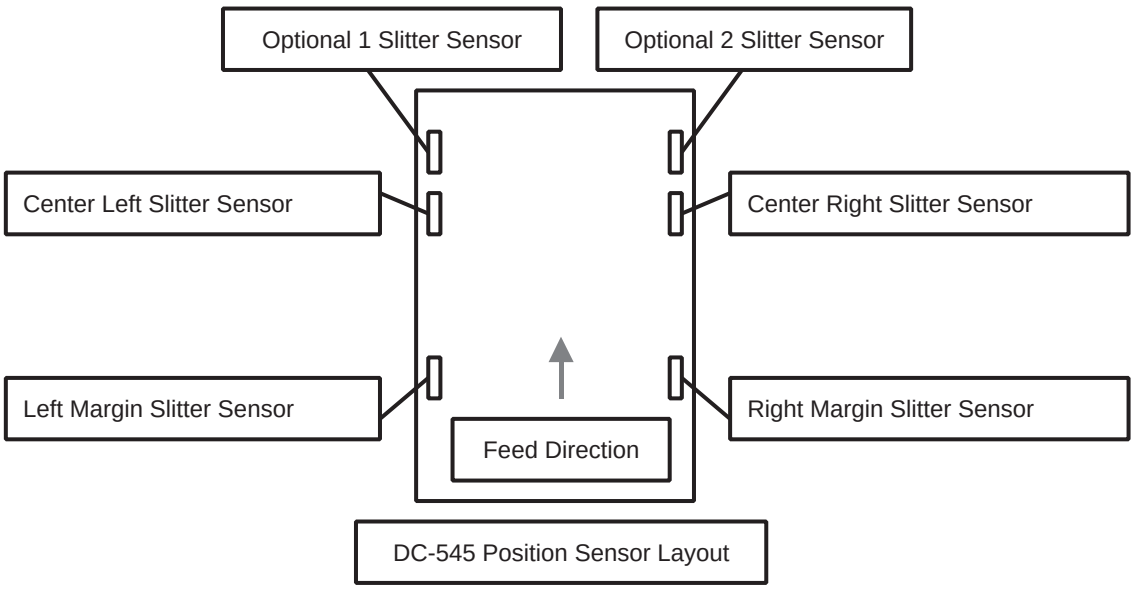
IMPORTANT:

- **Make adjustments after installing the slitter.**

➡See page 95



This image shows the optional 1 slitter sensor.



DC-545 Position Sensor Layout

(9) Removing the Optional Slitter 2 Sensor

① Open the cover (rear) of the DC-545.

② Remove the connector for the sensor. (1 position)

③ Remove the sensor from the angle.

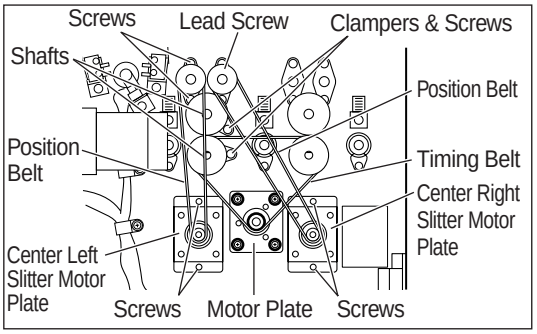
Reinstallation

IMPORTANT:

- **Make adjustments after installing the slitter.**

➡See page 95

(10) Removing the Center Right Slitter and Center Left Slitter



① Remove the cover R unit from the DC-545.

➡See page 49

② Loosen the 2 screws on the center right (left) slitter motor plate, and remove the position belt. (2 positions)

③ Loosen the 4 screws on the motor plate, and remove the timing belt. (1 position)

④ Take out the screw, and remove the clamper. (2 positions)

⑤ Face the key groove on the shaft downwards, and pull it out on the operation side. (2 positions)

NOTE :

- **Do not drop the bearings from opposite the operation side into the machinery. (2 positions)**
- **Do not drop the center right slitter or center left slitter keys into the machinery. (4 positions)**

⑥ Take out the 2 screws, and remove the lead screw. (2 positions)

NOTE :

- **Do not drop the collar or disc that are on the lead screw into the machinery.**
- **Do not install the center right slitter and the center left slitter in the wrong positions during assembly.**

Reinstallation

IMPORTANT:

- **Make adjustments after installing the slitter.**

➡See page 95

- **Adjust the play in the Lead Screw to be less than 0.1 mm.**

(11) Removing the Optional Slitter 1 and the Optional Slitter 2

① Remove the cover R unit from the DC-545.

➡See page 49

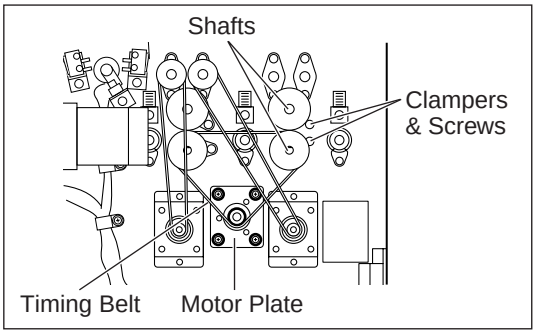
② Remove the cover L unit from the DC-545.

➡See page 50

③ Loosen the 4 screws on the motor plate, and remove the timing belt. (1 position)

④ Take out the screw, and remove the clamper. (2 positions)

⑤ Face the key groove on the shaft downwards, and pull it out on the operation side. (2 positions)

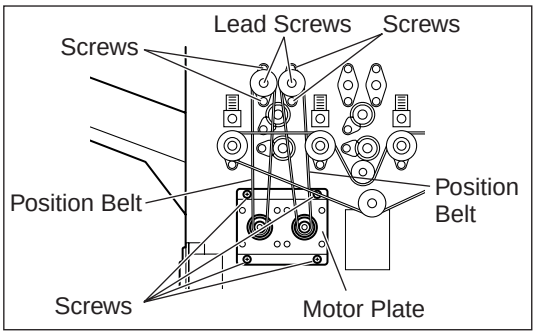


NOTE :

- **Do not drop the bearings from opposite the operation side into the machinery. (2 positions)**
- **Do not drop the optional slitter 1 or the optional slitter 2 into the machinery. (4 positions)**

⑥ Loosen the 4 screws on the motor plate on optional slitter 1 and optional slitter 2, and remove the position belt. (2 positions)

⑦ Take out the 3 screws, and remove the lead screw. (2 Positions)



NOTE :

- **Do not drop the collar or disc that are on the lead screw into the machinery.**
- **Do not install the optional slitter 1 and the optional slitter 2 in the wrong positions during assembly.**

Reinstallation

IMPORTANT:

- **Make adjustments after installing the slitter.**

➡See page 95

- **Adjust the play in the Lead Screw to be less than 0.1 mm.**

(12) Removing the Center Slitter's Upper Blade

NOTE :

- **The center left slitter, and the optional slitter 2 as well as the center right slitter and the optional slitter 1 are made in the same configuration.**

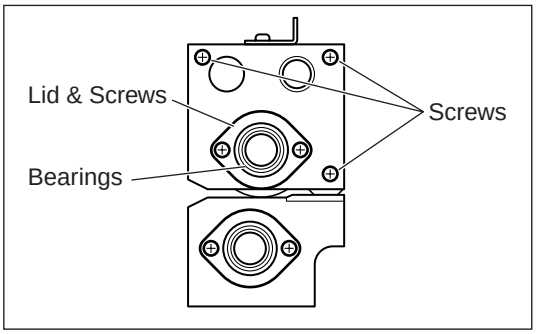
① Remove the center slitter.

➡See page 75, 76

② Take out the 3 screws, and remove the lid unit R.

③ Remove the bearing. (2 positions)

④ Take out the 2 screws, and remove the lid.

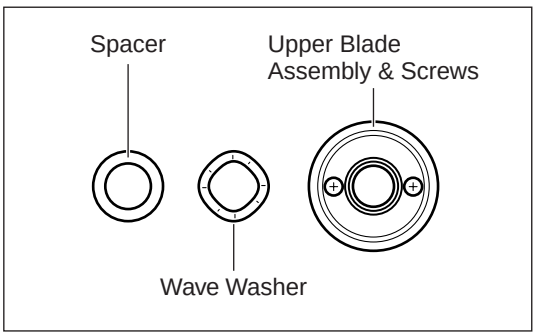


⑤ Remove the upper blade assembly.

NOTE :

- **Be careful not to cut yourself on the edge of the blade.**
- **Be careful not to lose the wave washer and spacer.**

⑥ Take out the 2 screws, and remove the blade.



(13) Removing the Center Slitter's Lower Blade

NOTE :

- **The center left slitter, and the optional slitter 2 as well as the center right slitter and the optional slitter 1 are made in the same configuration.**

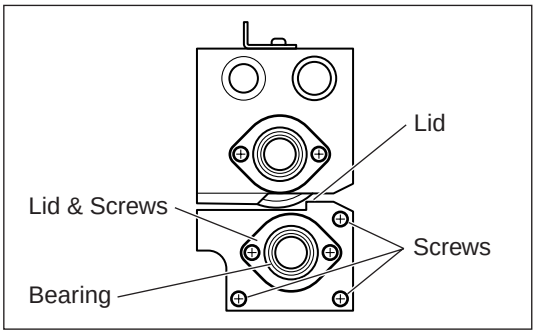
① Remove the center slitter.

➡See page 75, 76

② Take out the 3 screws, and remove the lid.

③ Remove the bearing.

④ Take out the 2 screws, and remove the lid.

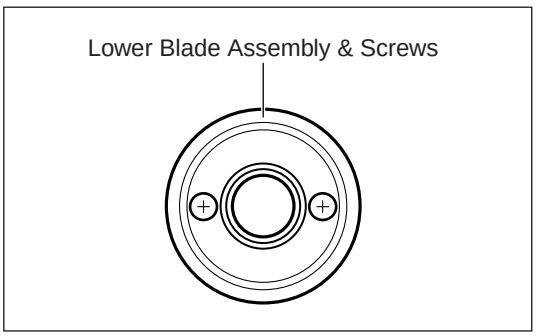


⑤ Remove the lower blade assembly.

NOTE :

- **Be careful not to cut yourself on the edge of the blade.**
- **Be careful not to lose the wave washer and spacer.**

⑥ Take out the 2 screws, and remove the blade.



8 Driving Section

(1) Removing the Main Motor

① Remove the cover L unit from the DC-545.

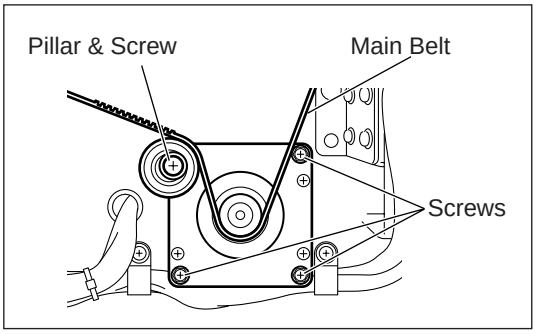
➡See page 50

② Take out the screw, and remove the pillar.

③ Remove the main belt.

④ Remove the connector for the stepper driver PWB CN2. (1 position)

⑤ Take out the 3 screws, and remove the main motor.



(2) Removing the Feed Stepper

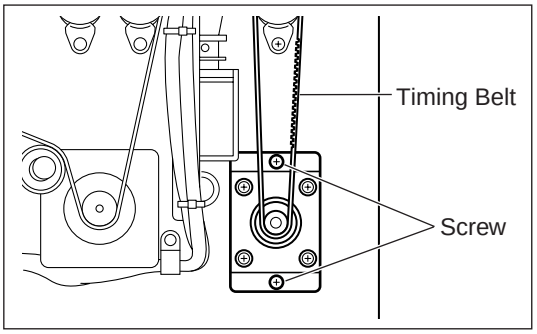
① Remove the cover L unit from the DC-545.

➡See page 50

② Take out the 2 screws on the motor plate, and remove the timing belt.

③ Remove the connector for the motor. (1 position)

④ Take out the 4 screws, and remove the feed stepper.



(3) Removing the 1st Roller (Lower)

① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Take out the 2 screws, and remove the motor plate.

④ Remove the belt.

⑤ Loosen the set screws, and remove the pulley unit.

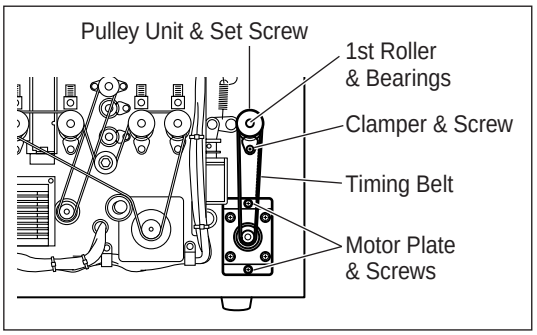
⑥ Take out the 4 screws, and remove the auxiliary plate.

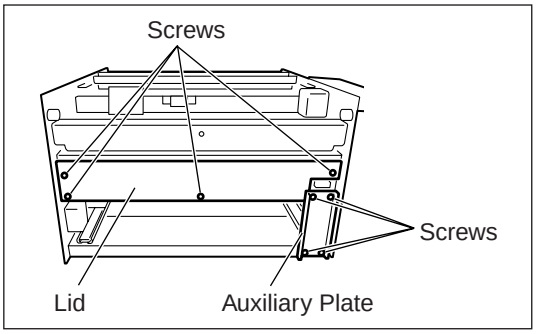
⑦ Take out the 4 screws, and remove the lid.

⑧ Take out the screw, and remove the clamper. (2 positions)

⑨ Remove the bearings. (2 positions)

⑩ Remove the 1st roller.





(4) Removing the 2nd and 3rd Rollers (Lower)

① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Take out the screw, and remove the pillar.

④ Remove the main belt (front).

⑤ Loosen the set screws, and remove the pulley unit.

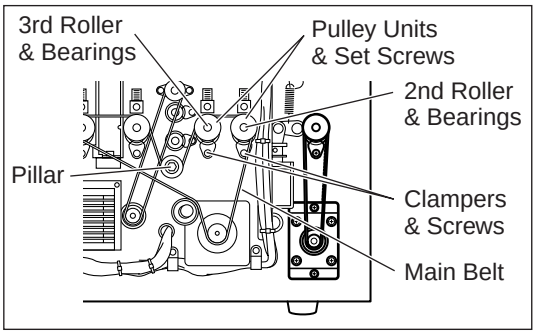
⑥ Take out the 4 screws, and remove the auxiliary plate.

⑦ Take out the 4 screws, and remove the lid.

⑧ Take out the screw, and remove the clamper. (2 positions)

⑨ Remove the bearings. (4 positions)

⑩ Remove the 2nd and 3rd Roller.



(5) Removing the 4th Roller (Lower)

NOTE :

- **Do not cut yourself on the cutter unit.**

① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Take out the screw, and remove the pillar.

④ Remove the main drive belt (front).

⑤ Loosen the set screws, and remove the pulley unit.

⑥ Open the cover (front) on the DC-545.

⑦ Take out the 2 screws, and remove the plate.

⑧ Remove the spring. (2 positions)

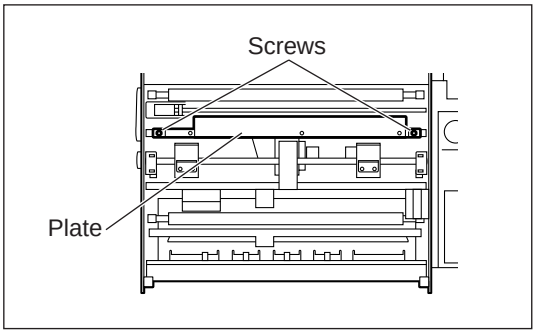
⑨ Remove the E ring from the 4th roller (upper).

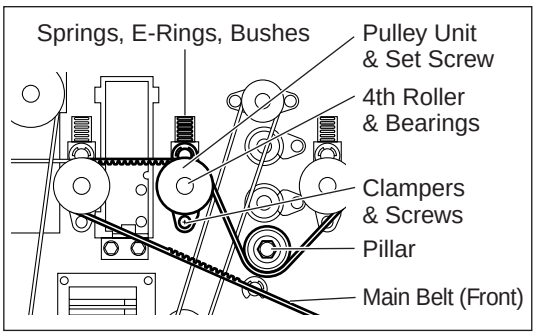
⑩ Remove the 4th roller (upper).

⑪ Take out the screw, and remove the clampers. (2 positions)

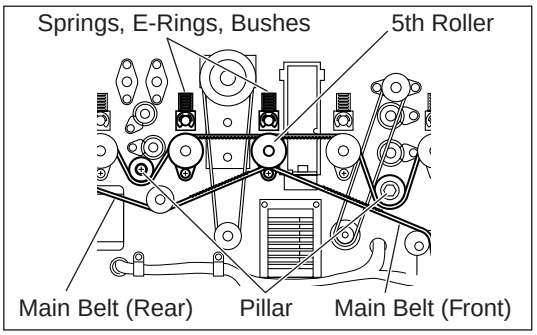
⑫ Remove the bearings. (2 positions)

⑬ Remove the 4th roller (lower).





(6) Removing the 5th Roller (Lower)



① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Take out the screw, and remove the pillars. (2 positions)
Remove the main drive belt (front).

④ Remove the main drive belt (rear).

⑤ Loosen the set screws, and remove the pulley unit.

⑥ Open the cover (rear) on the DC-545.

⑦ Remove the spring. (2 positions)

⑧ Remove the E rings from the 5th roller (upper). (2 positions)

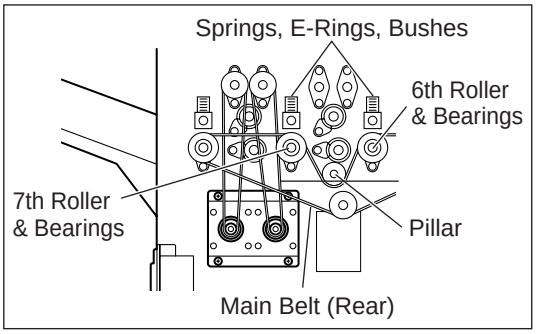
⑨ Remove the 5th roller (upper).

⑩ Take out the screw, and remove the clampers. (2 positions)

⑪ Remove the bearings. (2 positions)

⑫ Remove the 5th roller (lower).

(7) Removing the 6th and 7th Rollers (Lower)



① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Take out the screw, and remove the pillar. (1 position)

④ Remove the main drive belt (rear).

⑤ Loosen the set screws, and remove the pulley unit.

⑥ Open the cover (rear) on the DC-545.

⑦ Remove the spring. (2 positions)

⑧ Remove the E rings from the 6th and 7th rollers (upper). (2 positions)

⑨ Remove the 6th and 7th rollers (upper).

⑩ Take out the screw, and remove the clampers. (2 positions)

⑪ Remove the bearings. (2 positions)

⑫ Remove the 6th and 7th rollers (lower).

(8) Removing the 8th Roller (Lower)

① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Remove the belt tensioner from the main drive belt (rear).

④ Remove the main drive belt (rear).

⑤ Loosen the set screws, and remove the pulley unit.

⑥ Open the cover (rear) on the DC-545.

⑦ Take out the 4 screws, and remove the rear plate.

⑧ Remove the connector for the rear plate. (1 position)

⑨ Remove the spring. (2 positions)

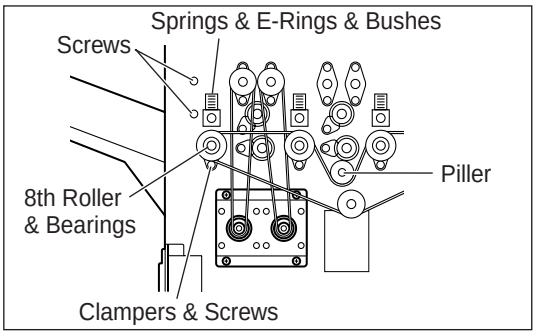
⑩ Remove the E rings from the 8th roller (upper).

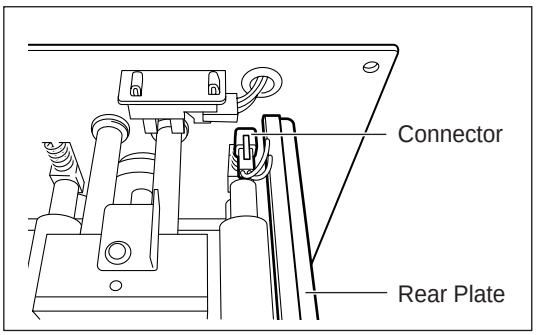
⑪ Remove the 8th roller (upper).

⑫ Take out the screw, and remove the clamper. (2 positions)

⑬ Remove the bearings. (2 positions)

⑭ Remove the 8th roller. (lower)





9 Electric Section

(1) Removing the PPS1 Phototransistor

① Remove the cover L unit from the DC-545.

➡See page 50

② Open the cover (front) on the DC-545.

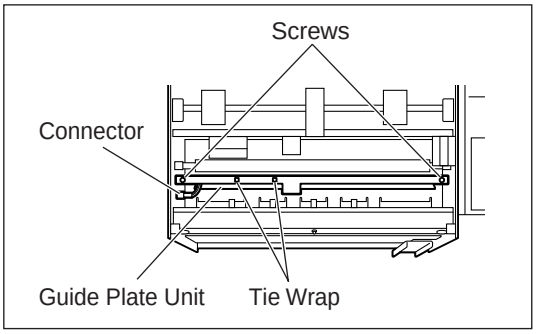
③ Remove the connector for the guide plate unit. (1position)

④ Take out the 2 screws, and remove the guide plate unit.

⑤ Cut the tie wraps. (2 positions)

⑥ Take out the 2 screws, and remove the phototransistor.

Ref. Photodiode: Brown, blue
Phototransistor: White, blue



(2) Removing the Panel PWB Unit

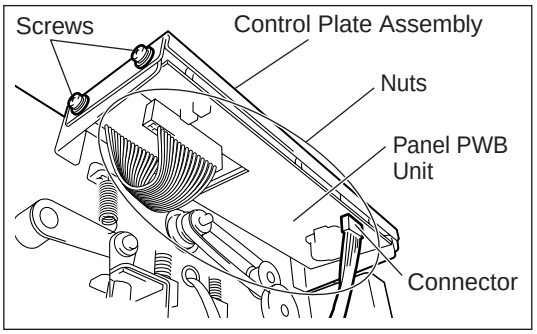
① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the connector. (1 position)

③ Take out the 4 screws, and remove the control plate assembly.

④ Undo the 8 nuts, and remove the panel PWB unit.



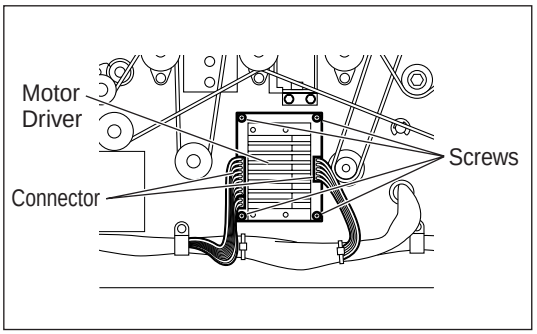
(3) Removing the Motor Driver

① Remove the cover L unit from the DC-545.

➡See page 50

② Remove the connector for the motor driver. (2 positions)

③ Take out the 4 screws, and remove the motor driver.



(4) Removing the PPS2 Phototransistor and PPS3 Photodiode

① Remove the cover L unit from the DC-545.

➡See page 50

② Remove the connector. (1 position)

③ Cut the tie wrap. (1 position)

④ Take out the screw, and remove the code band. (3 positions)

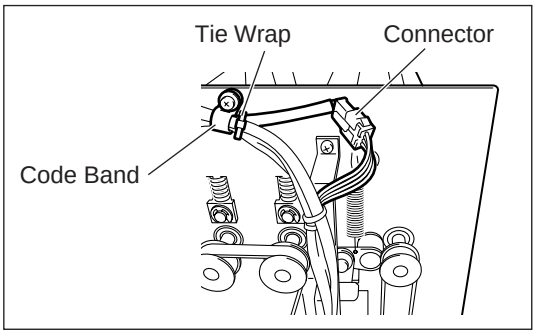
⑤ Take out the 2 screws, and remove the bracket.

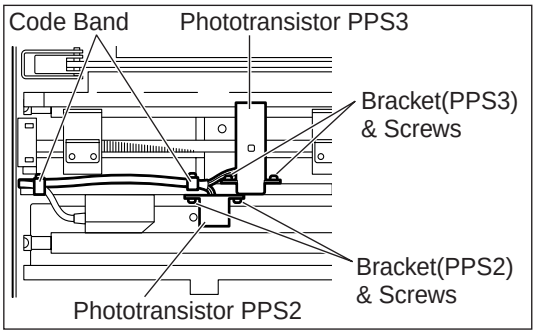
⑥ Take out the 2 screws, and remove the phototransistor PPS2.

⑦ Take out the 2 screws, and remove the bracket (PPS3).

⑧ Take out the 2 screws, and remove the phototransistor PPS3.

Ref. Photodiode: Brown, blue
Phototransistor: White, blue





(5) Removing the PPS1 and PPS2 Photodiode

① Remove the cover R unit from the DC-545.

➡See page 49

② Remove the cover L unit from the DC-545.

➡See page 50

③ Remove the right margin slitter position motor.

➡See page 60

④ Take out the 4 screws, and remove the auxiliary plate.

⑤ Take out the 4 screws, and remove the lid. (1 position)

⑥ Remove the connector for the feed lamp.

⑦ Take out the 4 screws, and remove the front plate.

⑧ Loosen the set screws on the lever unit on the operation side.

⑨ Remove the E ring opposite the operation side, and remove the bush.

⑩ Remove the square shaft.

⑪ Remove the connector for the PPS1 phototransistor. (1 position)

⑫ Take out the 2 screws, and remove the guide plate unit.

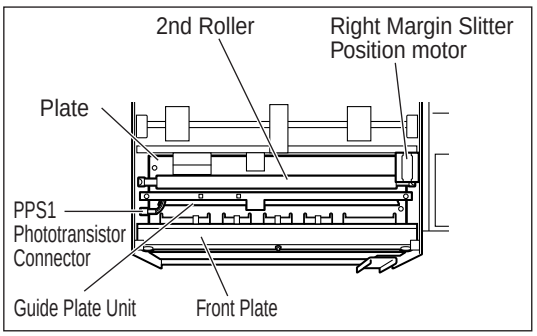
NOTE :

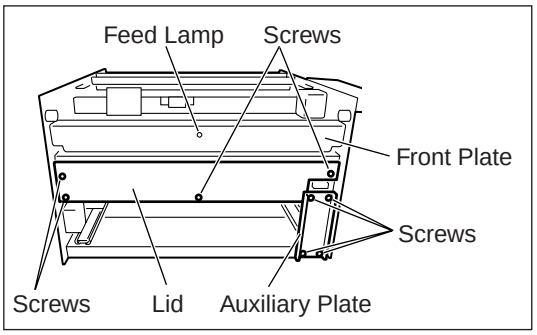
- **You need to make adjustments during installation.**

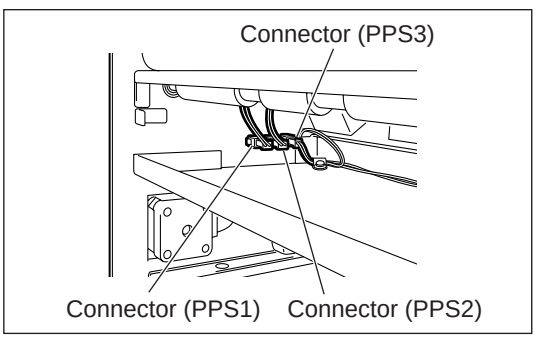
⑬ Remove the connector from the inside of the frame. (1 position)

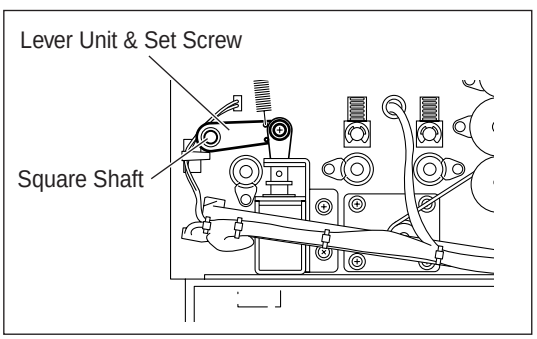
NOTE :

- **There are three connectors in a row. They are in order from the feeder, the PPS1 photodiode, the PPS2 photodiode, and the PPS3 Phototransistor.Do not install them in the wrong position.**









⑭ Remove the spring from the 2nd roller (upper). (2 positions)

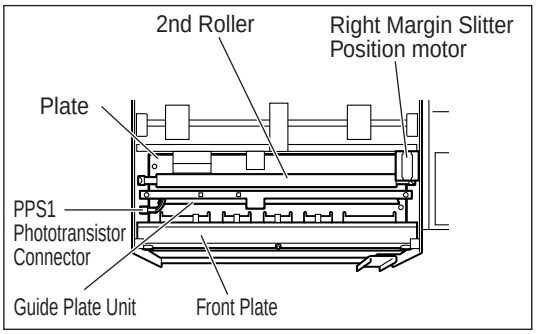
⑮ Remove the E rings from the 2nd roller (upper), and remove the bushes. (2 positions each)

⑯ Remove the 2nd roller (upper).

⑰ Take out the 6 screws, and remove the plate.

⑱ Take out the 2 screws, and remove the photodiode PPS1 and PPS2.

Ref. Photodiode: Brown, blue
Phototransistor: White, blue



(6) Removing the PPS3 Phototransistor

① Remove the cover R unit from the DC-545.

➡See page 49

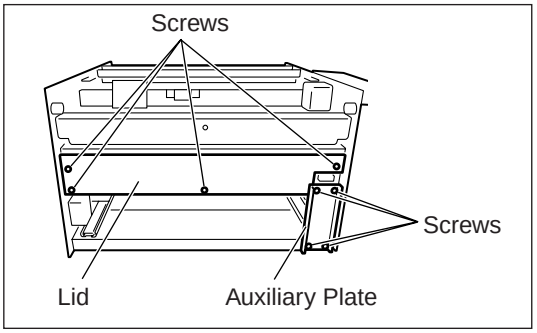
② Remove the cover L unit from the DC-545.

➡See page 50

③ Take out the 4 screws, and remove the auxiliary plate.

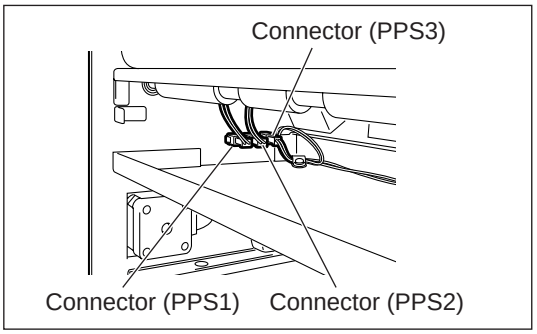
④ Take out the 4 screws, and remove the lid.

⑤ Remove the connector from the inside of the frame. (1 position)



NOTE :

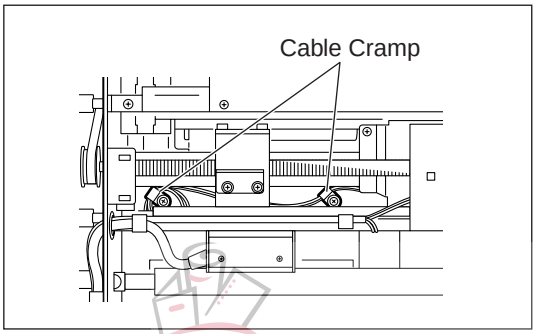
- **There are three connectors in a row. They are in order from the feeder, the PPS1 photodiode, the PPS2 photodiode, and the PPS3 phototransistor. Do not install them in the wrong position.**



⑥ Remove the cable cramp. (2 positions)

⑦ Remove the margin slitter L.

➡See page 64



⑧ Open the cover of the DC-545.

⑨ Take out the 2 screws, and remove the plate.

⑩ Remove the springs from the 4th roller (upper). (2 positions)

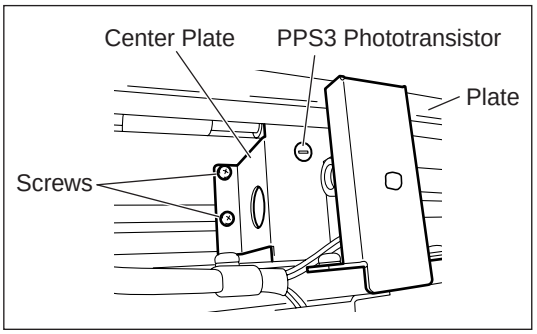
⑪ Remove the E rings from the 4th roller (upper). (2 positions)

⑫ Remove the 4th roller (upper).

⑬ Take out the 4 screws, and remove the center plate.

⑭ Take out the 2 screws, and remove the PPS3 phototransistor.

Ref. Photodiode: Brown, blue
Phototransistor: white, blue



(7) Removing the Feed Solenoid

① Remove the cover R unit from the DC-545.

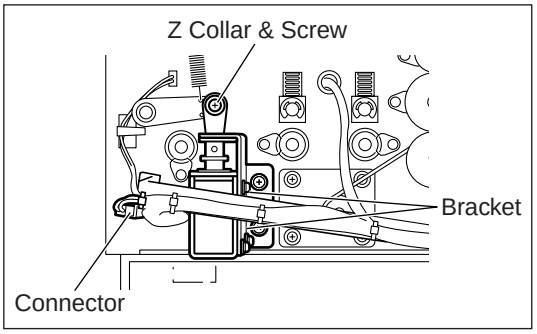
➡See page 49

② Remove the connector for the solenoid. (1 position)

③ Take out the screw, and remove the Z collar.

④ Take out the 2 screws, and remove the bracket.

⑤ Take out the 3 screws, and remove the feed solenoid.



(8) Removing the Gate Solenoid (Without using the DC-545HC)

① Remove the cover L unit from the DC-545.

➡See page 50

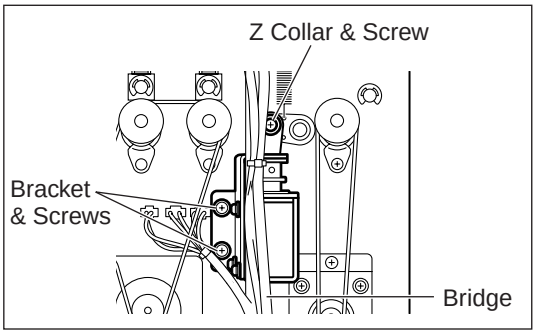
② Remove the connector for the solenoid. (1 position)

③ Take out the 2 screws, and remove the bridge.

④ Take out the screw, and remove the Z collar.

⑤ Take out the 2 screws, and remove the bracket.

⑥ Take out the 3 screws, and remove the feed solenoid.



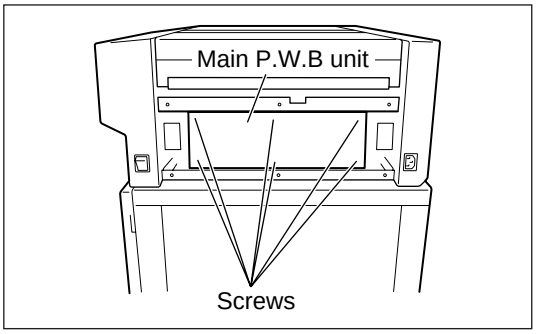
(9) Removing the Main P.W.B. Unit

① Remove the lid.

➡See page 50

② Remove all of the connectors from the Main P.W.B. unit. (There are 13 positions when the OP2 is not installed, and 14 positions when it is installed).

③ Take out the 6 screws, and remove the main P.W.B. unit.



Reinstallation

IMPORTANT:

- **Note the values on the following Help before changing the main P.W.B. H-09, H-24, H-26, H-27**

➡See page 140

- **Enter the values that you noted after replacing the main P.W.B.**

(10) Removing the Power Supply, Power Board, and Memory Board

① Remove the DC-545 cover R unit.

➡See page 49

② Remove the center slitter drive motor.

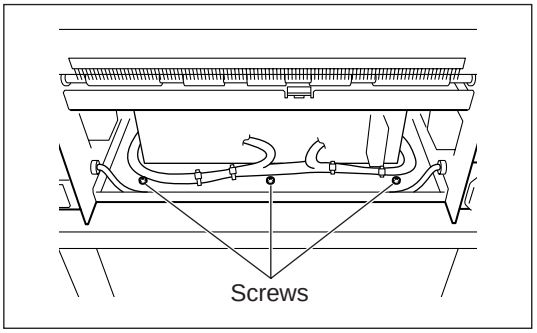
➡See page 71

③ Remove the lid.

➡See page 50

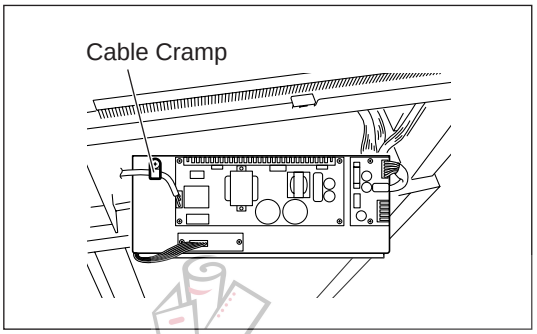
④ Remove all of the connectors from the Main P.W.B. unit.

⑤ Remove the 3 screws and take off the plate and then remove the cable cramp.

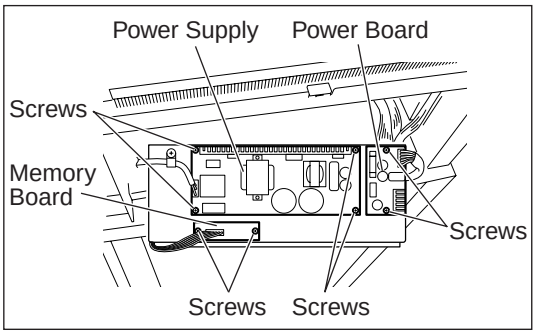


NOTE :

- **The main board, power supply, power board and memory board are attached to the Plate.**



⑥ Remove the screws and then take off the power supply, power board, and memory board.



Reinstallation

IMPORTANT:

- **Jobs that the user has stored are erased when the Memory board is changed.**
- **When a new Memory board is installed it has no memory, perform H-25: INITIALIZE RAM.**

HELP mode H-25 ➡see p. 148

MEMO

Chapter 4 Standard Adjustments

1 LCD Panel 94
1. Objective 94
2. How to make adjustments 94

2 Slitter Position 95
1. Objective 95
2. How to make adjustments 95

3 Cutter Registration 98
1. Objective 98
2. How to make adjustments 98

4 Creaser Calibration 100
1. Objective 100
2. How to make adjustments 100

5 CCD Horizontal Line Alignment 102
1. Objective 102
2. How to make adjustments 102

6 Adjusting Crease Depth 104
1. Objective 104
2. How to make adjustments 104

7 Feed Solenoid Adjustment 105
1. Objective 105
2. How to make adjustments 105

8 Gate Solenoid Adjustment (Without the DC-545HC) 106
1. Objective 106
2. How to make adjustments 106

9 Cutter Assembly Perpendicularity Adjustment 107
1. Objective 107
2. How to make adjustments 107

10 Creaser Perpendicularity Adjustment 108
1. Objective 108
2. How to make adjustments 108

11 CCD Vertical Line Alignment 109
1. Objective 109
2. How to make adjustments 109

12 Elevator Switch Height Adjustment 111
1. Objective 111
2. How to make adjustments 111

13 Cover Switch (AF-100: 1 position, DC-545: 2 positions) 112
1. Objective 112
2. How to make adjustments 112

14 Shutter Solenoid 113
1. Objective 113
2. How to make adjustments 113

15 Creaser Sensor Plate Adjustment 118
1. Objective 118
2. How to make adjustments 118

1 LCD Panel

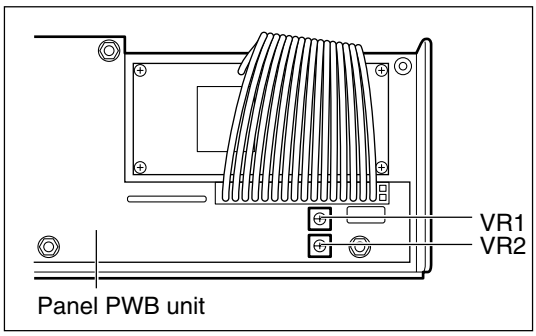
1. Objective

Adjusting the brightness and contrast of the LCD backlight.

2. How to make adjustments

① Adjusting the LCD backlight
Turn VR1 to adjust the backlight.

- Turn VR1 clockwise to make the backlight darker.
- Turn VR1 counterclockwise to make the backlight brighter.



② Adjusting the LCD contrast
Turn VR2 to adjust the contrast.

- Turn VR2 clockwise to make the text darker.
- Turn VR2 counterclockwise to make the text lighter.

2 Slitter Position

1. Objective

Adjusting the position of each slitter.

2. How to make adjustments

① Prepare some paper that is either 8 1/2" x 11", A4 size, or use the adjustment sheet.

② Turn on the power.

③ Select P-75. Turn off both bar code and reg. mark.

NOTE :

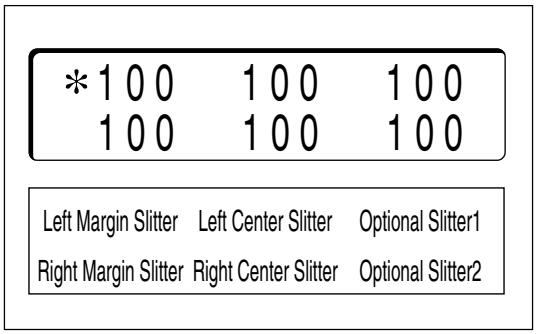
- **Use a JOB that has the LEFT. SL set to 10.0 mm and the RIGHT. SL set to 270.0 mm when the preset program P-75 have been overwitten.**

➡See page 155

④ Run one sheet of paper, and measure the width of the left margin. If the margin is within a range of 10.0 mm +/- 0.762 mm, go to Step ⑧. If it is not in that range, go to Step ⑤ to make adjustments.

⑤ Access H-24.

HELP mode H-24 ➡ see p.147



⑥ Adjust H-24 so that the width of the left margin is within a range of 10.0 mm +/- 0.762 mm.

- Increase the numbers to make the width of the left margin larger.
- Decrease the numbers to make the width of the left margin smaller.

⑦ Repeat Steps ④ to ⑥ until the width of the left margin is within the correct range.

⑧ Run one sheet of paper and measure the width of the piece of paper that comes out in the exit tray. If the width is within a range of 260.0 mm +/- 0.762 mm go to Step ⑫. If it is not in that range go to Step ⑨, to make adjustments.

⑨ Access H-24.

⑩ Adjust H-24 so that the width of the paper is within a range of 260.0 mm +/- 0.762 mm.

- Increase the numbers to make the width of the paper larger.
- Decrease the numbers to make the width of the paper smaller.

⑪ Repeat Steps ⑧ to ⑩ until the width of the paper is within the correct range.

⑫ Select P-77 (P-78 when OP2 is installed).
Turn off both bar code and reg. mark.

NOTE :

- **Use a JOB that has the LEFT. SL set to 10.0 mm and the RIGHT. SL set to 218.0 mm (270.0 mm), and the C.L. SL set to 62.0 mm, the C.R. SL set to 166.0 mm (218.0 mm), the OP 1 SL set to 114.0 mm, and the OP 2 SL set to (166.0 mm) when the preset program P-78 (P-78 when OP 2 is attached) have been overwritten.**

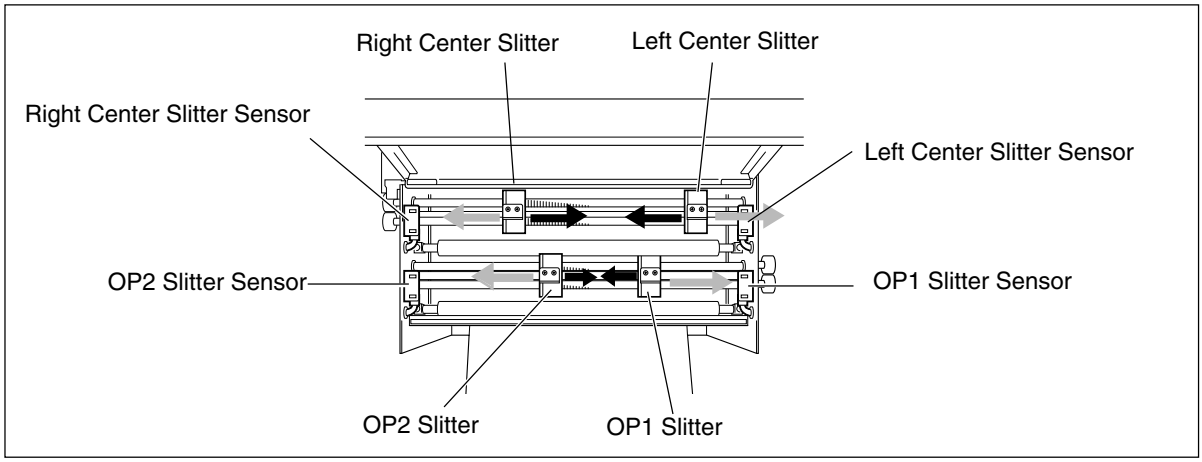
➡See page 155

⑬ Run one sheet of paper and measure the width of the piece of paper that comes out in the exit tray. If the width is within a range of 52.0 mm +/- 0.762 mm finish the job. If it is not in that range go to Step ⑭, to make adjustments.

⑭ Access H-24.

⑮ Adjust H-24 so that the width of the paper is within a range of 52.0 mm +/- 0.762 mm.

- Increase the numbers to move the center slitter away from the slitter sensor. ➡
- Decrease the numbers to move the center slitter closer to the slitter sensor.



⑯ Repeat Steps ⑬ to ⑮ until the width of the paper is within the correct range.

3 Cutter Registration

1. Objective

Adjusting the feed from PPS3 to the cutter.

2. How to make adjustments

① Select P-79. Turn off both bar code and reg. mark.

NOTE :

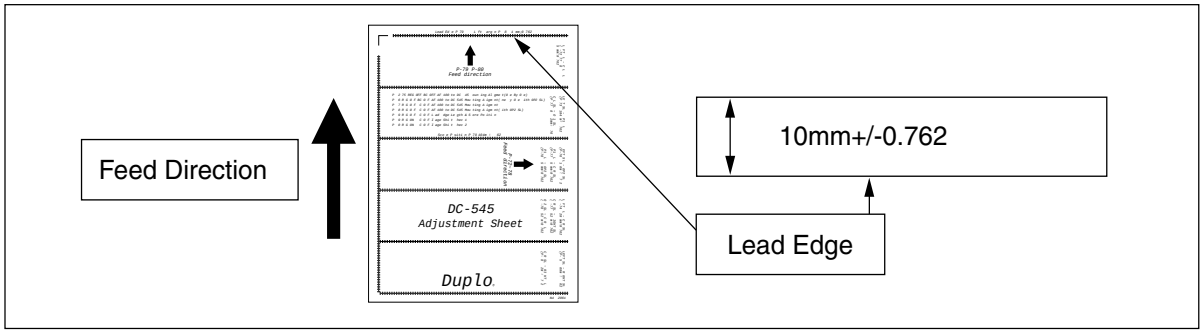
- **Use a JOB that has the Cut 1 set to 10.0 mm when the preset program P-79 have been overwritten.**

➡See page 155

- **Do not lose the leading edge of the waste paper that falls into the waste tray so that you can measure it.**

② Run one sheet of paper that is either 8 1/2" x 11", A4 size, or use the adjustment sheet.

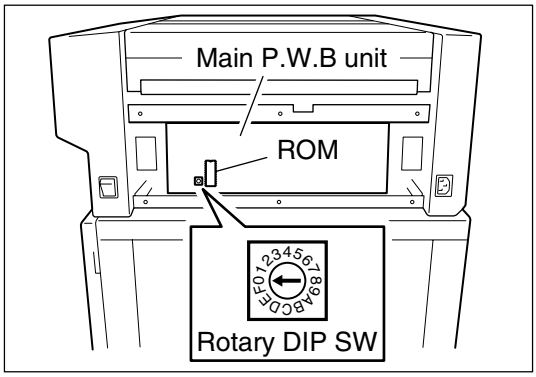
③ Measure the pieces of waste paper. If the width of the waste paper is within a range of 10.0 mm +/- 0.762 mm, finish the job. If it is not in that range, go to Step ④ to make adjustments.



④ Remove the rear lid (N4-G1250).

⑤ Adjust the rotary DIP SW (SW2) on the main P.W.B. Adjustments are made in increments of 0.2 mm for each step. Reduce the number to make the cut shorter, and increase the numbers to make the cut longer. Access H-09 to confirm the value that is currently set.

HELP mode H-09 ➡ see p.143



⑥ Repeat Steps ② to ⑤ until the width of the leading edge of the waste paper is within the range of 10.0 mm +/- 0.762 mm.

4 Creaser Calibration

• Removing the Creaser Assembly

➡See page 70

NOTE :

- **You need to adjust the sensor plate after installing the creaser assembly.**

➡See page 118

- **You need to adjust the creaser perpendicularity and creaser calibration after adjusting the sensor plate.**

➡See page 108

1. Objective

Adjusting the distance between the cutter and the creaser.

2. How to make adjustments

① Select P-79. Turn off both bar code and reg. mark.

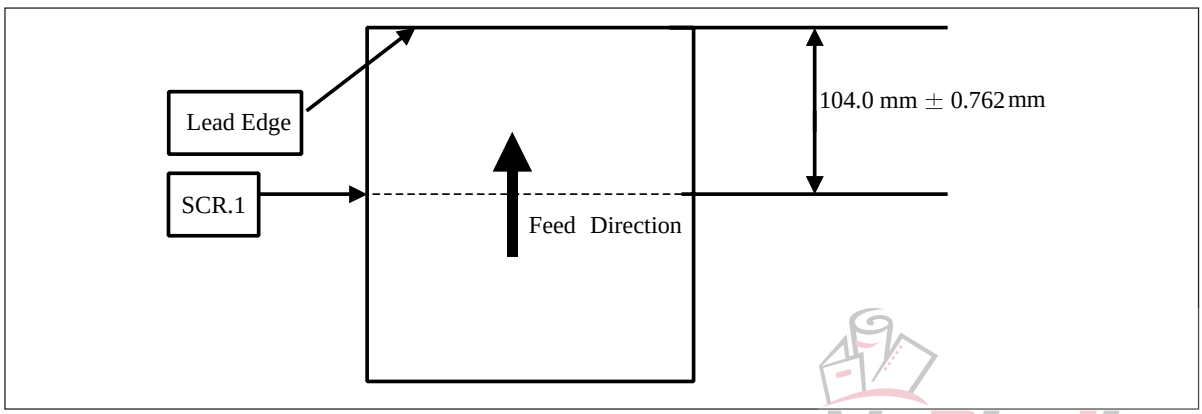
NOTE :

- **Use a JOB that has the Cut 1 set to 10.0 mm and SCR 1 set to 114.0 mm when the preset program P-79 have been overwritten.**

➡See page 155

② Run one sheet of paper that is either 8 1/2" x 11", A4 size, or use the adjustment sheet.

③ Measure the distance from the leading edge of the paper that was fed and the SCR.1. If the distance is within a range of 104.0 mm +/- 0.762 mm finish the job. If it is not in that range go to Step ④, to make adjustments.



④ Access H-26.

HELP mode H-26 ➡ see p.148

⑤ Adjust the distance between the lead edge of the paper and SCR.1 with the <+> and <-> keys. (Increasing the value by 1 makes the length 0.1 mm, and decreasing the value by 1 makes the length 0.1 mm.)

- If the distance from the lead edge to SCR.1 is 103.3 mm or less, increase the value.
- If the distance from the lead edge to SCR.1 is 104.7mm or greater, decrease the value.

⑥ Repeat Steps ② to ⑤ until the width of the distance from the leading edge to SCR.1 is 104.0 mm +/- 0.762 mm.

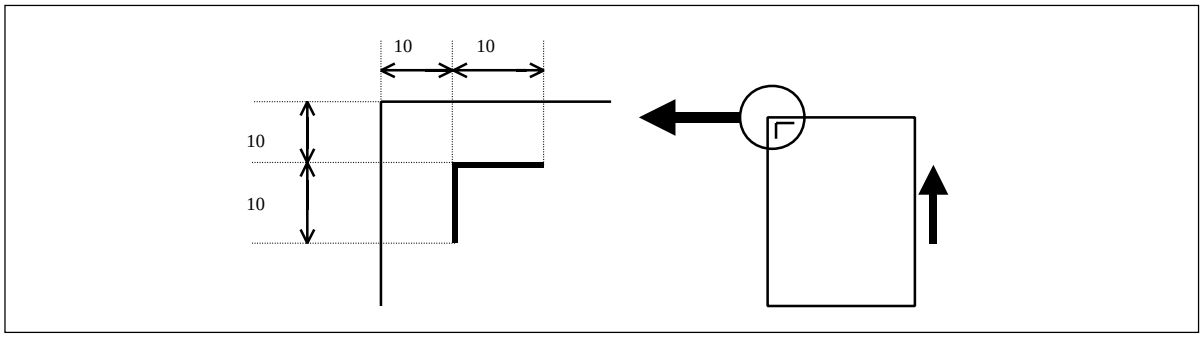
5 CCD Horizontal Line Alignment

1. Objective

Adjusting the installation angle of the CCD.

2. How to make adjustments

① Prepare an adjustment sheet or make the markings shown below on a piece of white paper.



② Turn on the power.

③ Select P-77.

NOTE :

- **Use a JOB that has the MARK 1 set to 70.0mm and MARK 2 set to 10.0 mm when the preset program P-77 have been overwritten.**

➡See page 155

④ Turn off bar code, turn on reg. mark, and then turn off AUTO CUT.

⑤ Turn off the power.

⑥ Turn on the power while pressing the <SET> key.

⑦ Paper can be fed in the following ways depending on the type of machine.

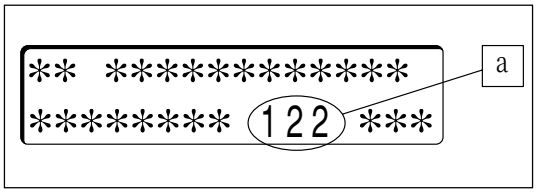
<For DC-545HC>

- Place the sample paper that was prepared in Step 1 on the feed tray, and then press the <START> key to start feeding.

<For DC-545>

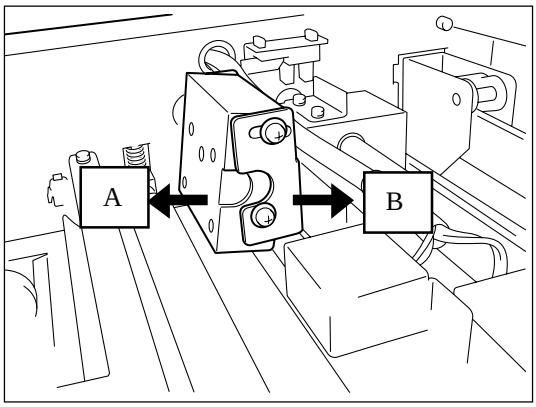
- Place the sample on the feed tray to start feeding.

⑧ When the machine stops, the following appears on the LCD display panel. Confirm the value that is shown at “a” in the diagram. If the value is greater than 119 and less than 125, finish the job. If the value for “a” is less than 120, or greater than 124, go to Step ⑨ to make adjustments.



⑨ Loosen the four screws holding the CCD, and then adjust the angle.

- Adjust the CCD towards A (increase the angle), if the value for “a” is greater than 124.
- Adjust the CCD towards B (decrease the angle), if the value for “a” is less than 120.



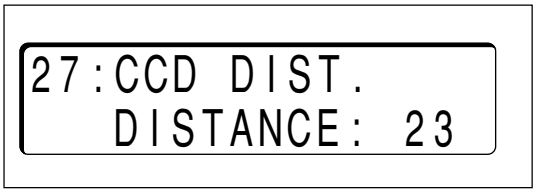
⑩ Repeat Steps ⑤ to ⑨ until the value for “a” is between 120 and 124.

IMPORTANT:

- **Do not make adjustments while in the HELP mode (H-27).**

NOTE :

- **You can check the value in HELP mode (H-27), but the value is shown as**
  H-27 = [145-“a”]
  You need to make adjustments if this value is not in a range of 23 +/- 2.



HELP mode H-27 ➡ see p.148

6 Adjusting Crease Depth

1. Objective

Adjusting the depth of the crease.
• Removing the Creaser Assembly

➡See page 70

NOTE :

- **You need to adjust the sensor plate after installing the creaser assembly.**
- **You need to adjust the creaser perpendicularity and creaser calibration after adjusting the sensor plate.**

• Creaser Sensor Plate Adjustment

➡See page 118

• Creaser Perpendicularity Adjustment

➡See page 108

• Creaser Calibration

➡See page 100

2. How to make adjustments

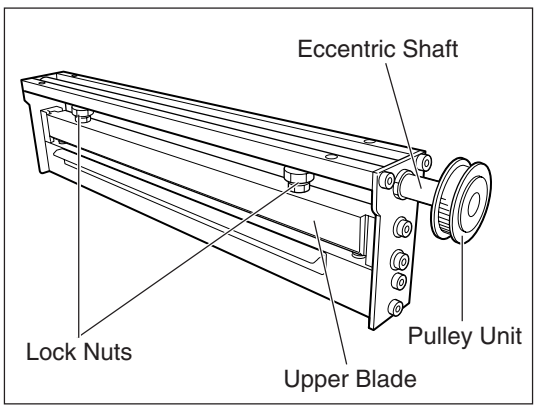
NOTE :

- **A test sheet may be creased by inserting it in the creaser gap and manually rotating the creaser unit pulley.**

① Place the Creaser Assembly in the “upright” position (normal operating orientation) on a stable surface.

② Loosen the two lock nuts, as shown in Figure.

③ Rotate the Creaser Assembly pulley unit the eccentric shaft has reached it lowest point.



④ Place a 0.6 mm feeler gauge between the Creaser Blades, making certain the gauge does not interfere with the raised area on the male creaser blade. Rotate each adjusting bolt clockwise to increase the gap size (or counterclockwise to decrease the gap size).

⑤ Tighten each lock nut while holding the respective adjusting bolt.

⑥ Verify the gap size and readjust if necessary.

7 Feed Solenoid Adjustment

1. Objective

Adjusting the clearance between the 1st roller (upper) and the 1st roller (lower).
• Removing the Feed Solenoid

➡See page 89

2. How to make adjustments

① Position the solenoid bracket so the set screws are located in the center of the slotted holes on the solenoid bracket.

② Loosen the set screw and adjust the distance between the 1st roller (upper) and the 1st roller (lower) so that it is between 1 mm and 2 mm. Also make sure the end play of the square shaft is 0.2 mm.

③ Adjust the distance between the E-clip on the solenoid's plunger and the rubber so that it is between 3 mm and 4 mm so that the 1st rollers, upper and lower, contact.

④ Access H-11.

HELP mode H-11 ➡ see p.144

⑤ Press the <+> key to confirm if the solenoid operates.

⑥ If the distance between the two rollers is not correct, adjust the solenoid bracket position.

8 Gate Solenoid Adjustment (Without the DC-545HC)

1. Objective

Adjust the height of the gate solenoid.
• Removing the Gate Solenoid

➡See page 89

2. How to make adjustments

① Turn off the power to the machine and disconnect the power cord.

② Position the solenoid bracket so the set screws are located in the center of the slotted holes on the solenoid bracket.

③ Loosen the set screw and adjust the gate position so it is between 4.5 mm to 5.0 mm above the plate. Note the lever should be pulled up by the spring. Also make sure the end play of the shaft is 0.2 mm.

④ Access H-11.

HELP mode H-11 ➡ see p.144

⑤ Press the <+> key to confirm if the solenoid operates.

⑥ If the gate position is not correct, adjust the solenoid bracket to obtain the proper position.

9 Cutter Assembly Perpendicularity Adjustment

1. Objective

Adjusting the perpendicularity of the cutter assembly.
• Removing the Cutter Assembly

➡See page 67

NOTE :

- **Do this procedure first before you install the cutter assembly, and then adjust the cutter registration and the creaser calibration.**

• Cutter Registration Adjustment

➡See page 98

• Creaser Calibration Adjustment

➡See page 100

2. How to make adjustments

① Prepare some paper that is either 8 1/2" x 11", A4 size, or use the adjustment sheet.

② Turn on the power.

③ Select P-79. Turn off both bar code and reg. mark.

NOTE :

- **Use a JOB that has the Cut 1 set to 10.0 mm when the preset program P-79 have been overwritten.**

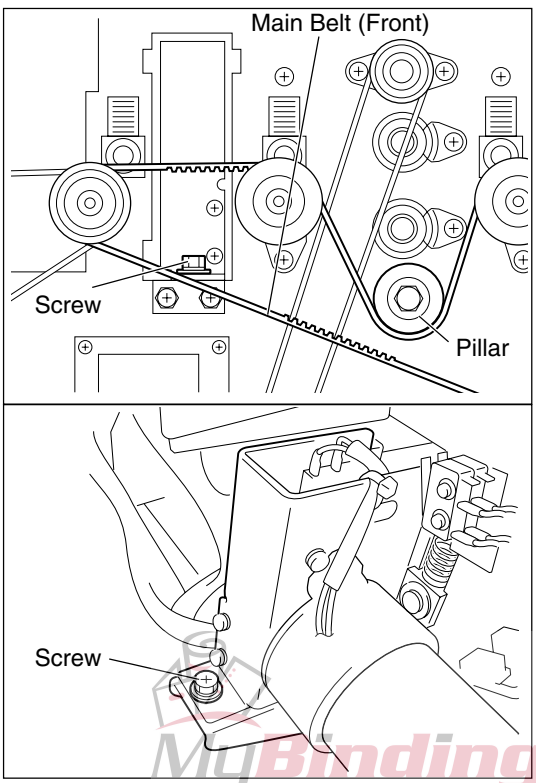
➡See page 155

- **Put a mark on the leading edge of the paper that falls into the waste tray for confirmation when you can measure it.**

④ Adjust the cutter assembly screws so that the cut off leading edges are parallel. (2 positions)

⑤ Adjust the cutter registration after installation.

➡See page 98



10 Creaser Perpendicularity Adjustment

1. Objective

Adjusting the perpendicularity of the creaser assembly.
• Removing the Creaser Assembly

➡See page 70

NOTE :

- **You need to adjust the sensor plate after installing the creaser assembly.**

➡See page 118

- **You need to adjust the creaser perpendicularity and creaser calibration after adjusting the sensor plate.**

➡See page 100

2. How to make adjustments

① Prepare some paper that is either 8 1/2" x 11", A4 size, or use the adjustment sheet.

② Turn on the power.

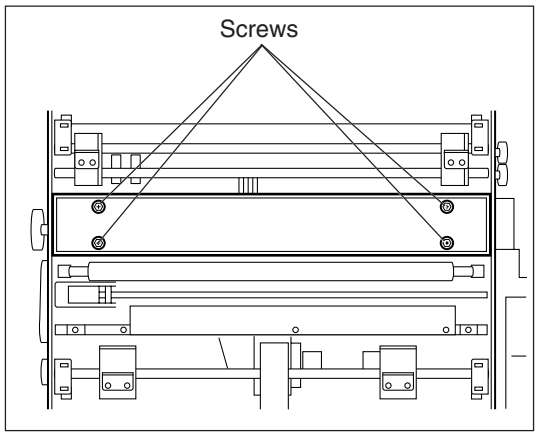
③ Select P-79. Turn off both bar code and reg. mark.

NOTE :

- **Use a JOB that has the Cut 1 set to 10.0 mm and SCR 1 set to 114.0 mm when the preset program P-79 have been overwritten.**

➡See page 155

④ Adjust the creaser assembly screws so it is parallel with the leading edge of the paper. (4 positions)



11 CCD Vertical Line Alignment

1. Objective

Adjusting the installation of the CCD so that it is level.

2. How to make adjustments

① Prepare some paper that is either 8 1/2" x 11" or A4 size paper, on which a straight line has been drawn 10 mm from the leading edge of the paper, or use the adjustment sheet.

② Turn on the power, set the paper you prepared in Step ① on the feed tray.

③ Paper can be fed in the following ways depending on the type of machine.

<For DC-545HC>

- Press the <START> key to start feeding the paper.

<For DC-545>

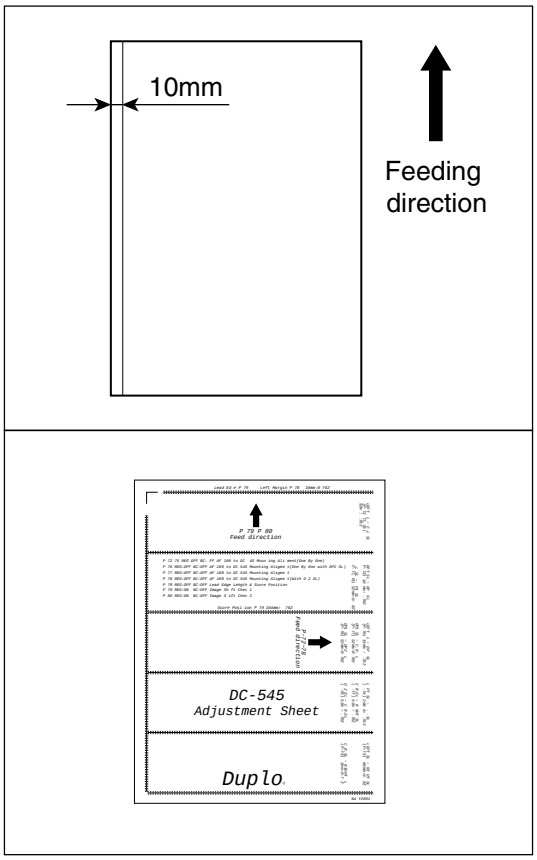
- Start feeding the paper.

④ Open the cover when the paper approaches the CCD. The message E1: COVER OPEN is displayed, and the machine stops.

⑤ Turn off the power.

⑥ Access H-22.

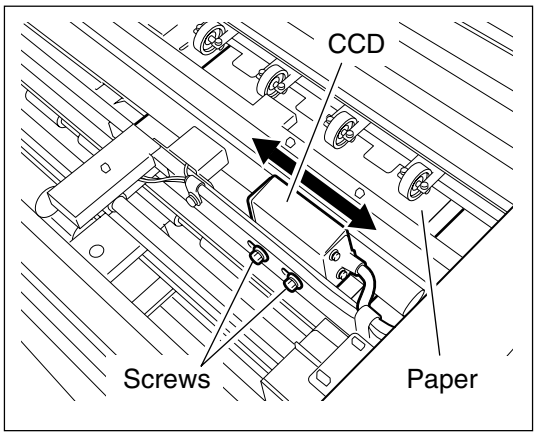
HELP mode H-22 ➡ see p.146

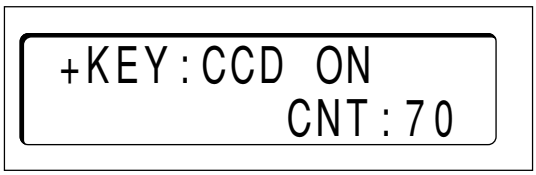


⑦ Loosen the screws of the CCD and adjust its position so that the CNT value is 70 +/- 1.

⑧ Tighten the screws so that the CNT value is within a range of 70 +/- 1.

⑨ Remove the paper and finish.





12 Elevator Switch Height Adjustment

1. Objective

Adjusting the upper and lower limits of the elevator.
• Removing the Elevator Switch

➡See page 54, 55

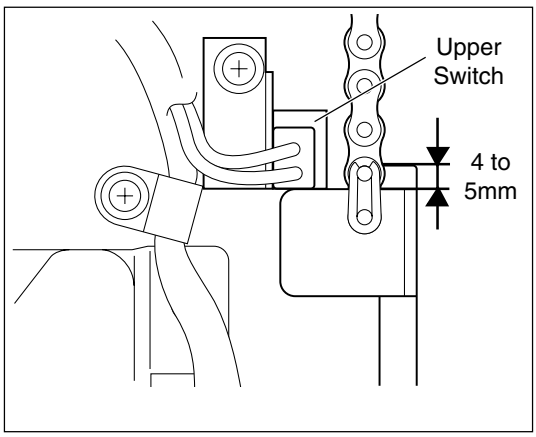
2. How to make adjustments

• Upper Limit Switch adjustment

① Access H-29.

HELP mode H-29 ➡ see p.148

② Press the <+> key to adjust the movement of the Upper Limit Switch (LA028) within the range shown below.

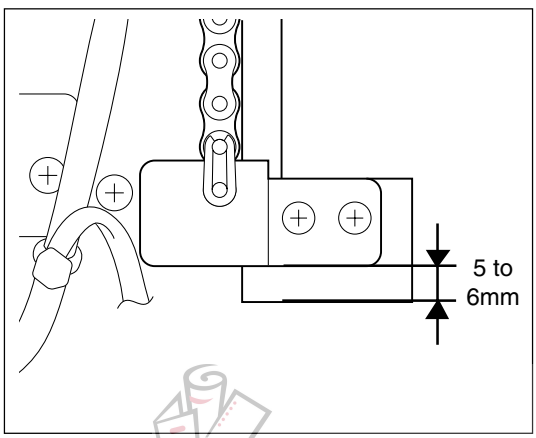


• Lower Limit Switch adjustment

① Access H-29.

HELP mode H-29 ➡ see p.148

② Press the <-> key to adjust the movement of the Lower Limit Switch (LA028) within the range shown below.



13 Cover Switch (AF-100: 1 position, DC-545: 2 positions)

1.Objective

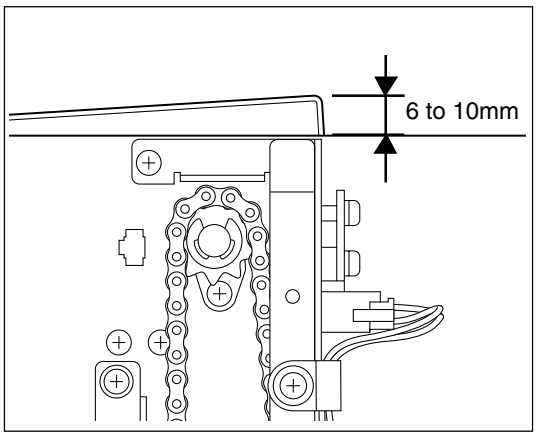
Adjusting the operating position of the cover switch.
• Removing the Cover Switch

➡See page 50, 51, 58

2. How to make adjustments

① Turn the power off and disconnect the power cord.

② Adjust the cover switch so that the micro switch goes on when the cover has been opened from 6 to 10 mm.



③ After finishing the adjustments, access H-08 and confirm that the status of “m” and “w” are operating correctly.

HELP mode H-08 ➡ see p.143

14 Shutter Solenoid

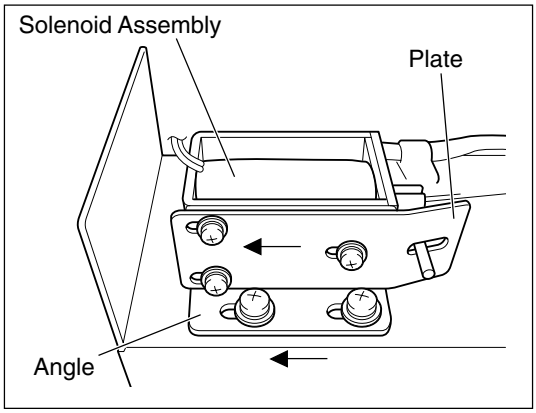
1. Objective

Adjusting the shutter operation.
• Removing the Shutter Solenoid

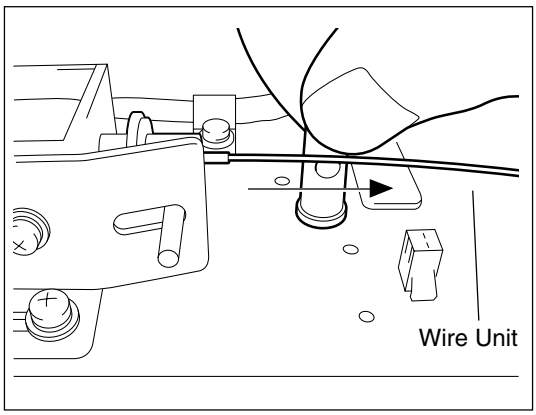
➡See page 56

2. How to make adjustments

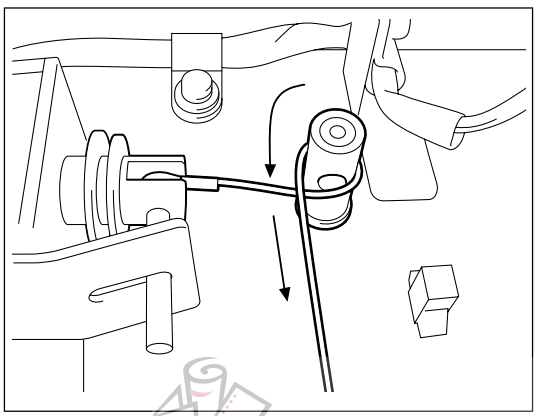
① Attach the angle and plate to the solenoid. Set the plate as far in the direction of the arrow as possible. Attach the solenoid assembly to the duct. Set the solenoid assembly as far in the direction of the arrow as possible.



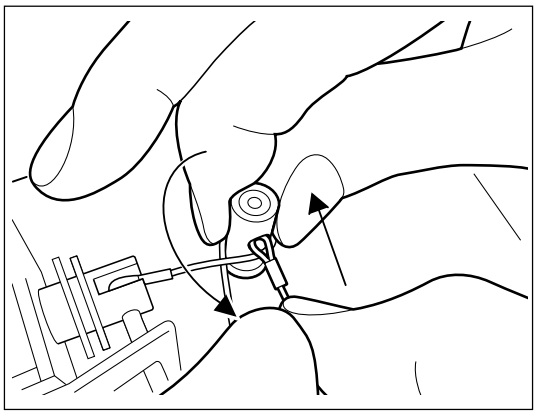
② Turn the shaft counterclockwise until the shutter is closed.
Pull the wire unit to move the plunger in the direction of the arrow.



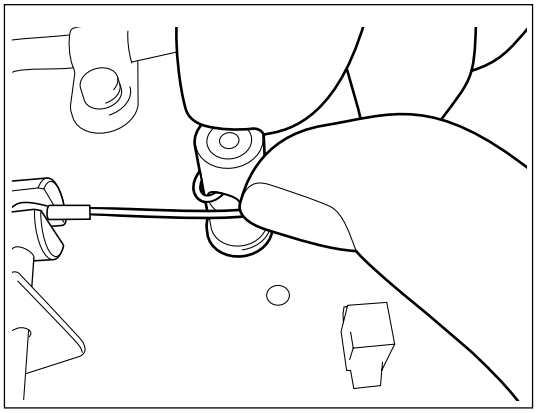
③ While pulling on the wire unit give it a 3/4 wrap.



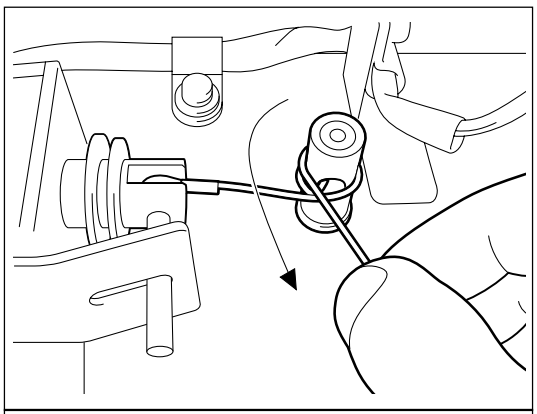
④ Hold the wire unit so that it doesn't become loose and pass it through the hole in the spindle.

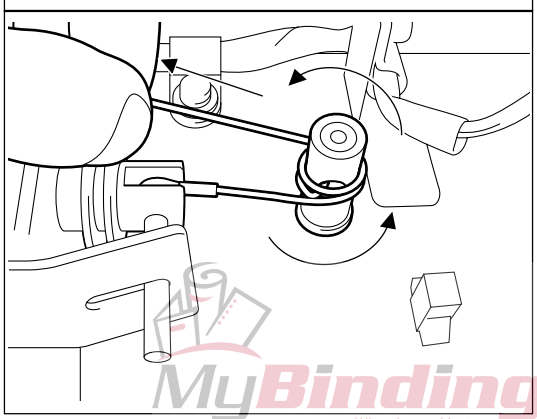


⑤ Pull the wire to remove any slack in the wire.
Check again that the shutter is closed.

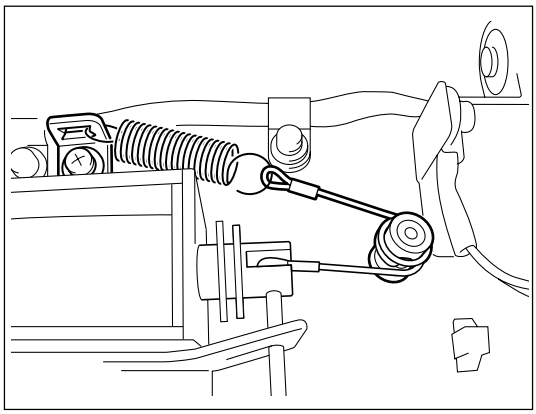


⑥ Wrap the wire counterclockwise as shown by the arrow.
Wrap the wire towards the top as shown in the image.

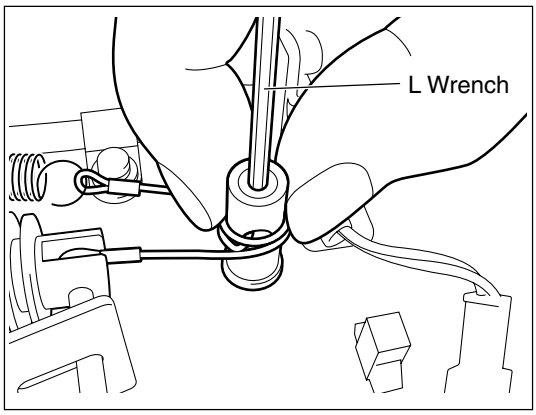


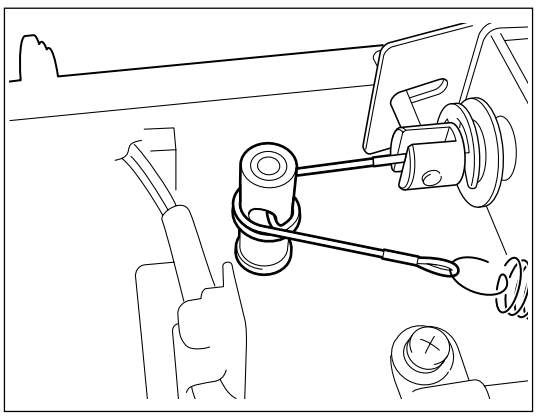


⑦ Attach the wire unit to spring T.



⑧ Fasten the set screw so that the shutter is in the closed position.





⑨ Make sure that the shutter is closed when the solenoid is off.
In the case of diagram 1, move the plate or angle in the direction of the arrow until the shutter closes.
See the illustration of the following page.

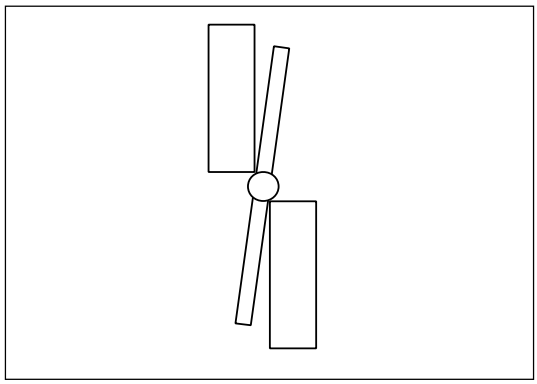


Diagram 1, an incorrect example of when the solenoid is off

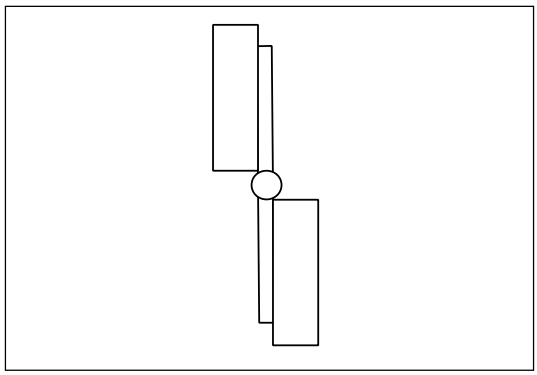


Diagram 2, a correct example of when the solenoid is off

⑩ Make sure that the shutter is at 70˚ or 80˚ when the solenoid is on (pulling it by hand).
In the case of diagram 3, adjust the angle of the open shutter so that it is between 70 to 80 by moving the plate in the direction of the arrow as shown in the image below.
See the illustration of the following page.

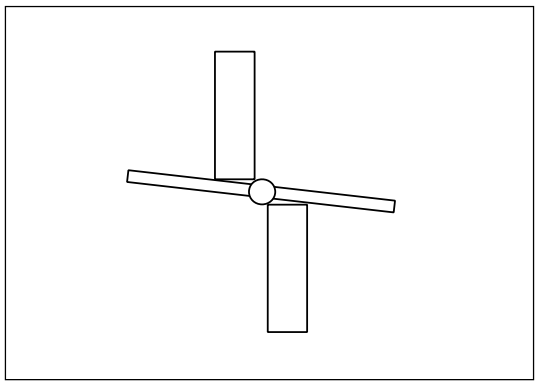


Diagram 3, an incorrect example of when the solenoid is on.

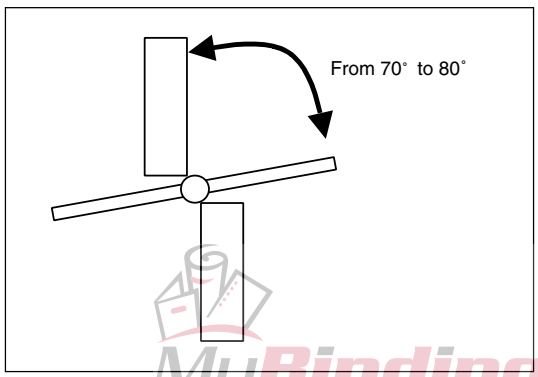
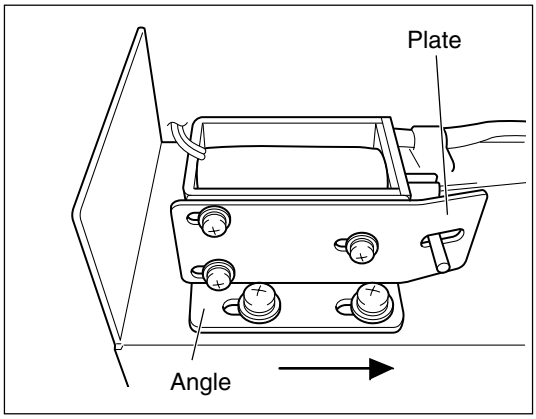


Diagram 4, a correct example of when the solenoid is on



⑪ Access H-31.

HELP mode H-31 ➡ see p.149

⑫ Press the <+> key to make sure that the shutter moves smoothly.

15 Creaser Sensor Plate Adjustment

1. Objective

Adjusting the standby position of the creaser's upper blade.

• Removing the Creaser Assembly

➡See page 70

NOTE :

- **You need to adjust the sensor plate after installing the creaser assembly.**

➡See page 108

- **You need to adjust the creaser perpendicularity and creaser calibration after adjusting the sensor plate.**

➡See page 100

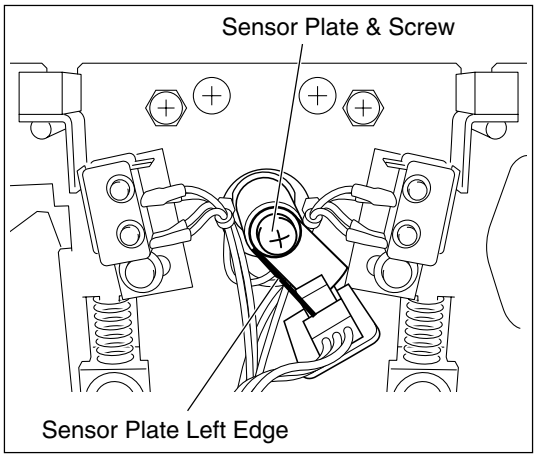
2. How to make adjustments

① Access H-18.

HELP mode H-18 ➡ see p.145

② Stop the upper and lower blades with the <+> key so that the space between them is wide.

③ Use one screw to position the sensor plate so that its left edge touches the middle of the sensor.



Chapter 5 Maitenance Checks

1 Cleaning and Oiling 120
(1) Cleaning 120
(2) Oiling 120

2 Periodic Maintenance Check List 120
(1) 6 month Periodic Checks 120
(2) Criteria for Replacing Primary Parts 121

5

1 Cleaning and Oiling

(1)Cleaning

1.Paper shreds

Clean with a brush or a dry cloth.

(2)Oiling

1.Bearings

Apply a small amount of oil to the end face and axel while turning the levers and rollers.

2.Gears and Rails

Apply grease after cleaning the paper dust off of the gears.

2 Periodic Maintenance Check List

(1) 6-month Periodic Checks

1. DC-545

Section to be checked	Description	Inspection standard
PPS1	Cleaning	Use a brush to clean any paper dust, etc. from the upper and lower sensors.
PPS2	Cleaning	Use a brush to clean any paper dust, etc. from the upper and lower sensors.
PPS3	Cleaning	Use a brush to clean any paper dust, etc. from the upper and lower sensors.
PPS4	Cleaning	Use a brush to clean any paper dust, etc. from the upper and lower sensors.
Timing Belts	Checking	Inspect Belts for signs of wear or loss of tension. Replace any cracked or worm belts, and retension as required.
Rollers	Cleaning	Use a lint-free cloth moistened with water to clean the rollers.
Roller Bearings	Oiling	Oil (70P95)
Slitter	Oiling	Oil (70P95)
Cutter	Oiling	Oil (70P95)

2. AF-100

Photo Emitting Sensor (N4-W1091)	Cleaning	Use a brush to clean any paper dust, etc.
Photo Receiving Sensor (N4-W2061)	Cleaning	Use a brush to clean any paper dust, etc.
Flat Belts	Cleaning	Use a brush to clean any paper dust, etc.
Gears	Greasing	

(2) Criteria for Replacing Primary Parts

1. DC-545

PARTS No.	DESCRIPTION	MTBF
L8-X1110	Cutter motor	2,000,000 times
L8-B1112	Upper blade (margin slitter)	1,500,000 sheets
L8-B2060	Lower blade (margin slitter)	1,500,000 sheets
N4-D2100	Upper blade (center slitter)	1,500,000 sheets
N4-D2230	Lower blade (center slitter)	1,500,000 sheets
N4-E1010	Creaser unit (female)	1,500,000 times
N4-E1080	Creaser unit (male)	1,500,000 times
L8-C1061	Rubber roller	1,500,000 sheets
AJ＊＊＊	Timing belt	1,500,000 sheets
M2-X1010	Stepping motor (main)	1,200,000 sheets
L8-X1010	Gear motor (slitter drive)	1,200,000 sheets
M7-X1110	Stepping motor (slitter position)	1,200,000 sheets
N4-X1020	Gear motor	2,000,000 cycles
N4-X1000	Paper feed solenoid 1	8,000 hours
N4-X1010	Paper feed solenoid 2	8,000 hours
	Main board unit	40,000 hours
	Panel board unit	40,000 hours
	Memory board unit	40,000 hours

2. AF-100

PARTS No.	DESCRIPTION	MTBF
N4-K1021	Flat belt	300,000 to 500,000 sheets
N4-K2122	Separator	300,000 to 500,000 sheets
AJ036	Timing belt	1,500,000 sheets
N4-V3031	Feed PCB unit	40,000 hours
N4-W1091	Photo-emitting PCB	40,000 hours
N4-W2061	Photo-receiving PCB	40,000 hours
N4-W2070	Wiring/Inter lock	30,000,000 times
N4-X1010	Solenoid	8,000 hours
N4-X1040	Gear motor	3,000 hours
N4-X1050	Fan motor	10,000 hours
N4-X1060	Gear motor	500 hours
CA021	Photo interrupter	40,000 hours
LA028	Micro switch	200,000 times
N4-K4550	Actuator	300,000 to 500,000 sheets

MEMO

Chapter 6 Troubleshooting

1 Troubleshooting Guide 124

(1) J1: REJECT PAPER 124
(2) J2: FEED JAM 124
(3) J3: CENTER JAM 126
(4) J4: SLITTER OR STACK 126
(5) J5: OVER CAPACITY 127
(6) J7: CUTTER LOCK 127
(7) J8: CREASE LOCK 128
(8) E1: COVER OPEN 128
(9) E2: RS232C ERROR 128
(10) E3: BARCODE ERROR 129
(11) E4: REG.MARK ERROR 129
(12) E5: SLITTER ERROR 130
(13) E6: DATA ERROR 130
(14) E7: CONNECTION ERROR 131
(15) E8: ELEVATOR ERROR 131

2 Error Display 132

1 Troubleshooting Guide

(1) J1: REJECT PAPER

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	In the machine	Is there some paper in the machine?	Yes	Remove the paper from inside the machine.
2	PPS	Is the sensor normal when checked in HELP mode (H-08)?	Yes	Finish.
3		Was the sensor level check done at HELP mode (H-03, 04, 05, and 06) correct?	No	Clean the relevant sensors. If this does not solve the trouble, replace the sensors.
4	Main PWB unit	Is the main PWB unit connector CN4 plugged in?	No	Plug the connector in firmly. Plug the connector in firmly.
			Yes	Replace the faulty sensor.

HELP mode H-08 ➡ see p.143

(2) J2: FEED JAM

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Paper	Does the paper meet specifications?	No	Use paper that meets specifications.
2	Separator	Is the trouble cleared by adjusting the space between the separator and the suction belt?	Yes	Finish
3	Suction fan	Is the trouble cleared by setting the suction appropriately?	Yes	Finish
4	Paper level sensor	Is the trouble cleared by correcting the position of the paper level sensor?	Yes	Finish
5	Feed motor	Does it operate in HELP mode (H-31)?	Yes	Go to procedure 8.
6		Is the connector for the feed motor firmly plugged in?	No	Plug the connector in firmly.
7		Is the voltage measured with a tester between CN2-9 (+) and CN2-10 (GND) on the feed PCB unit +24 V (DC) while the feed motor is operating?	Yes	Replace the feed motor.
			No	Go to procedure 21.
8	Fan (blower)	Does it operate in HELP mode (H-30)?	Yes	Go to procedure 11.
9		Is the connector for the fan (blower) firmly plugged in?	No	Plug the connector in firmly.
10		Is the voltage measured with a tester between CN2-3 (+) and CN2-4 (GND) on the feed PCB unit +24 V (DC) while the fan (blower) is operating?	Yes	Replace the fan (blower).
			No	Go to procedure 21.

Pro-ce-dure	Cause/Defective part	Items to be checked	Result	Countermeasure
11	Fan (suction)	Does it operate in HELP mode (H-30)?	**Yes**	Go to procedure 14.
12		Is the connector for the fan (suction) firmly plugged in?	**No**	Plug the connector in firmly.
13		Is the voltage measured with a tester between CN2-3 (+) and CN2-4 (GND) on the feed PCB unit +24 V (DC) while the fan (blower) is operating?	**Yes**	Replace the fan (blower).
			No	Go to procedure 18.
14	Paper level sensor	Is it normal when checked in HELP mode (H-08)?	**Yes**	Go to procedure 16.
15		Is the voltage measured with a tester between CN4-12 (+) and CN4-13 (GND) on the feed PCB unit +5 V (DC), is it 0 V (DC) during light transmission?	**No**	Replace the sensor.
			No	Go to procedure 21.
16	Connections	Are the AF-100 and the DC-545 firmly connected?	**No**	Connect them firmly.
17	Feed motor	Is it normal when checked in HELP mode (H-10)?	**No**	Replace the feed motor.
18	Feed solenoid	Does it operate when in HELP mode (H-11)?	**Yes**	Go to procedure 20.
19		Is the voltage measured with a tester between CN6-1 (+) and CN6-2 (GND) on the main PWB unit +24 V (DC) while the feed solenoid is operating?	**Yes**	Replace the feed solenoid.
			No	Replace the main PWB unit.
20		Is the press pressure too weak when the feed solenoid is operating?	**Yes**	Adjust the press pressure.
21	Front Plate	Does it operate normally if you open a gap between the Front Plate (N4-A1190) and Plate (N4-A1210)?	**Yes**	Finish
22	Feed PCB unit	Is the trouble cleared by replacing the feed PCB unit?	**Yes**	Finish
			No	Check the wire bundles and the connectors, and if there are not problems, replace the main PWB unit.

HELP mode H-08 ➡ see p.143
HELP mode H-10 ➡ see p.143
HELP mode H-11 ➡ see p.144
HELP mode H-30 ➡ see p.149
HELP mode H-31 ➡ see p.149

(3) J3: CENTER JAM

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Paper length	Is the paper on which the trouble occurred at least 30 mm longer than the JOB data?	Yes	Use paper that matches the JOB data, or rewrite the JOB data.
2	Main motor	Is it normal when checked in HELP mode (H-11)?	No	Replace the stepper driver PWB. If that does not clear the trouble, then replace the main motor.
3	Margin slitter drive motor	Is it normal when checked in HELP mode (H-20)?	Yes	Replace the main PWB unit.
4	Margin slitter drive motor belt tension	Is the belt tension too high?	Yes	Adjust the belt tension.
5	Margin slitter drive motor	Is the connector for the margin slitter drive motor firmly plugged in?	No	Plug the connector in firmly.
6	Main PWB unit	Is the voltage measured with a tester between CN6-3 (+) and CN6-4 (GND) on the main PWB unit +24 V (DC) while the slitter drive motor is operating?	Yes	Replace the margin slitter drive motor.
			No	Replace the main PWB unit.

HELP mode H-11 ➡ see p.144

HELP mode H-20 ➡ see p.145

(4) J4: SLITTER OR STACK

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Paper length	Is the paper on which the trouble occurred at least 50 mm longer than the JOB data?	Yes	Use paper that matches the JOB data, or rewrite the JOB data.
2	Paper curl	Is the paper getting stuck on the paper path because it is curled?	Yes	Eliminate any curl from the paper.
3	Main motor	Is it normal when checked in HELP mode (H-11)?	No	Replace the stepper driver PWB. If that does not clear the trouble, then replace the main motor.
4	Center slitter drive motor	Is it normal when checked in HELP mode (H-20)?	Yes	Replace the main PWB unit.
5	Center slitter drive motor belt tension	Is the belt tension too high?	Yes	Adjust the belt tension.
6	Center slitter drive motor	Is the connector for center slitter drive motor firmly plugged in?	No	Plug the connector in firmly.
7	Main PWB unit	Is the voltage measured with a tester between CN6-9 (+) and CN6-10 (GND) on the main PWB unit +24 V (DC) while the center slitter drive motor is operating?	Yes	Replace the center slitter driver motor.
			No	Replace the main PWB unit.

HELP mode H-11 ➡ see p.144

HELP mode H-20 ➡ see p.145

(5) J5: OVER CAPACITY

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Amount of paper loaded	Is paper loaded over the MAX?	Yes	Reduce the paper so that it is below MAX.
2	Paper level sensor	Is the actuator stuck?	Yes	Adjust the actuator so that is moves smoothly.
3		Is the trouble cleared by adjusting the paper level sensor?	Yes	Finish
4		Is it normal when checked in HELP mode (H-08)?	Yes	Go to procedure 6.
5		Is it normal when checked in HELP mode (H-08)?	No	Plug the connector in firmly.
			No	Replace the paper level sensor.
6	Elevator lower switch	Is it normal when checked in HELP mode (H-08)?	No	Replace the elevator lower switch.
			No	Replace the main PWB unit.

HELP mode H-08 ➡ see p.143

(6) J7: CUTTER LOCK

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Paper	Does the paper meet specifications?	No	Use paper that meets specifications.
2	Cutter position switch	Is it normal when checked in HELP mode (H-08)?	Yes	Go to procedure 4.
3	Main PWB unit	Is the connector for the main PWB unit 6 firmly plugged in?	No	Plug the connector in firmly.
			Yes	Replace the cutter position switch.
4	Cutter motor	Does the blade go up and down when checked in HELP mode (H-19)?	No	If the motor is running, check that the hollow screw on the cutter drive is tight. If the motor is not running, replace the cutter motor.
5	Interlock	While the power is turned off, remove CN6 from the main PWB unit and measure the resistance between CN6-5 and CN6-6. Is the resistance equal to some amount of ohms (W) when all the covers are closed? Or is the resistance infinite ohms (∞ W) when one of the covers is open?	No	Check the interlock SW wires, if they are normal, replace the switch.
			Yes	Replace the main PWB unit.

HELP mode H-08 ➡ see p.143

HELP mode H-19 ➡ see p.145

(7) J8: CREASE LOCK

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Paper	Does the paper meet specifications?	No	Use paper that meets specifications.
2	Creaser sensor	Is it normal when checked in HELP mode (H-08)?	Yes	Go to procedure 4.
3	Main PWB unit	Are the connectors for the Main PWB unit CN3 (creaser motor) and CN8 (creaser sensor) firmly plugged in?	No	Plug the connector in firmly.
			Yes	Replace the crease sensor.
4	Creaser motor	Does the creaser's upper blade go up and down when checked in HELP mode (H-10)?	No	If the motor is running, check that the screw holding the pulley is tight. If the motor is not running, replace the creaser motor.
			Yes	Replace the main PWB unit.

HELP mode H-08 ➡ see p.143

HELP mode H-18 ➡ see p.145

(8) E1: COVER OPEN

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Cover	Is it normal when checked in HELP mode (H-08)?	Yes	Replace the main PWB unit.
2	Main PWB unit	Is the connector for the main PWB unit CN8 firmly plugged in?	No	Plug the connector in firmly.
			Yes	Replace the interlock switch.

HELP mode H-08 ➡ see p.143

(9) E2: RS232C ERROR

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	CCD	Is the CCD firmly connected? (Main PWB unit CN5)	No	Plug the connector in firmly.
			Yes	Replace the main PWB unit.
				Replace the CCD.

(10) E3: BARCODE ERROR

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	BAR CODE	Is the BAR CODE printed?	**No**	Turn the BAR CODE off, or print a BAR CODE.
2	BAR CODE	Is the area where the BAR CODE is printed dirty?	**Yes**	Use paper that is not dirty.
3	BAR CODE	Is the BAR CODE printed within the specified range?	**No**	Print the BAR CODE within the specified range.
4	CCD	Is the CCD firmly connected? (Main PWB unit CN5)	**No**	Plug the connector in firmly.
			Yes	Replace the main PWB unit.
				Replace the CCD.

(11) E4: REG. MARK ERROR

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	REG. MARK	Is the REG. MARK printed?	**No**	Turn the REG. MARK off, or print a REG. MARK.
2	REG. MARK	Is the area where the REG. MARK is printed dirty?	**Yes**	Use paper that is not dirty.
3	REG. MARK	Is the REG. MARK printed within the specified range?	**No**	Print the REG. MARK within the specified range.
4	CCD	Is the CCD firmly connected? (Main PWB unit CN5)	**No**	Plug the connector in firmly.
			Yes	Replace the main PWB unit.
				Replace the CCD.

(12) E5: SLITTER ERROR

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Slitter sensor	Is it normal when checked in HELP mode (H-08)?	Yes	Go to procedure 3.
2	Slitter positioning motor	Is the connector firmly plugged in to the sensor?	Yes	Replace faulty slitter sensors.
			No	Plug the connector in firmly.
3		Is it normal when checked in HELP mode (H-12, 13, 14, 15, 16, 28)?	Yes	Replace the main PWB unit.
4		Is the slitter positioning motor running?	No	Replace faulty slitter positioning motors.
5		Is the belt tension too high?	Yes	Adjust the belt tension.
6		Is the lead screw attached to the pulley firmly set?	No	Tighten the pulley screw.
			Yes	Replace the main PWB unit.

HELP mode H-08 ➡ see p.143
HELP mode H-12 ➡ see p.144
HELP mode H-13 ➡ see p.144
HELP mode H-14 ➡ see p.144
HELP mode H-15 ➡ see p.144
HELP mode H-16 ➡ see p.145
HELP mode H-28 ➡ see p.148

(13) E6: DATA ERROR

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Cuts and scores	Are the number of cuts and scores greater than 17 when calculated from table 1?	Yes	Turn off AUTO CUT or reduce the number of cuts and scores.
			No	Replace the main PWB unit.

➡See page 137

(14) E7: CONNECTION ERROR

Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Connector	Is the * displayed on the upper right edge of the LCD? (Indicates that AF-100 and DC-545 are connected.)	**No**	Firmly connect the AF-100 and the DC-545.
2	Feed PCB unit	Is the trouble cleared by replacing the feed PCB unit?	**Yes**	Finish
			No	Replace the main PWB unit.

(15) E8: ELEVATOR ERROR

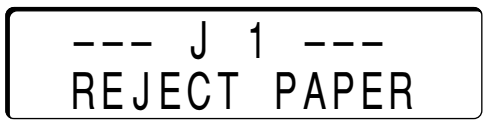
Procedure	Cause/Defective part	Items to be checked	Result	Countermeasure
1	Elevator upper/ lower/switch	Is it normal when checked in HELP mode (H-08)?	**No**	Replace the faulty switch.
2	Elevator motor	Does the feed tray go up and down when checked in HELP mode (H-29)?	**Yes**	Go to procedure 5.
3	Feed tray	Are the chain and pulley normal?	**No**	Adjust any malfunctions.
4	Feed PCB unit	Is the voltage measured with a tester between CN2-5 and CN2-6 on the feed PCB unit +24 V (DC) while the elevator motor is operating?	**Yes**	Replace the elevator motor.
5		Is the trouble cleared by replacing the feed PCB unit?	**Yes**	Finish
			No	Replace the main PWB unit.

HELP mode H-08 ➡ see p.143

HELP mode H-29 ➡ see p.148

2 Error Display

This machine has a self-diagnosis function that displays an error message on the control panel when it determines a problem has occurred. The following shows the error message, possible causes and a description of the problem that was detected.

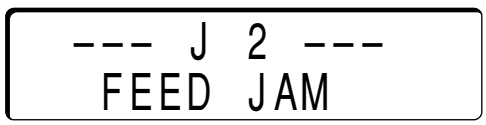


Cause

- Paper is still in the machine
- One of the sensors (PPS1, PPS2, PPS3, or PPS4) is defective

Problem detected

1. Light did not transmit through all of the sensors (PPS1, PPS2, PPS3, and PPS4) when the power was turned on.
2. Light did not transmit through all of the sensors PPS1, PPS2, PPS3, and PPS4 when the start switch was pressed while the machine was stopped and paper was in the AF-100. (Only when using DC-545HC)



Cause

- Paper does not meet specifications
- Separator gap is too narrow(AF-100)
- Fan (blower) airflow is insufficient (AF-100)
- Feed solenoid incorrect adjustment
- Feed solenoid is defective
- Feed motor is defective
- Shutter solenoid is defective(AF-100)
- Feed motor is defective(AF-100)
- Fan (suction or blower) is defective(AF-100)

Problem detected

1. Paper was not detected at PPS2 even though it was longer than the set length of the paper (30 mm) and it was detected at PPS1.
2. Paper was not detected at PPS1 after the specified time (about 2.5 seconds) after paper feed operation started, therefore paper feed operations were started again. Error occurs if the feed operation starts three times and paper is not detected at PPS1.

```
--- J 3 ---
CENTER JAM
```

Cause

- Paper does not meet specifications
- The length of the JOB data and the paper are different.

Problem detected

1. The leading edge of the paper was not detected at PPS3 even though the specified length (100 mm) had passed PPS2.
2. Paper was not released from PPS3 even though the preset registered paper length + 30 mm had passed PPS3.

```
--- J 4 ---
SLITTER OR STACK
```

Cause

- Paper does not meet specifications
- The length of the job data and the paper are different.
- The stacker is full and paper can not be ejected.

Problem detected

1. The leading edge of the paper was not detected at PPS4 even though the specified length (500 mm) had passed PPS3.
2. Paper was not released from PPS4 even though the preset registered paper length + 50 mm had passed PPS4.

```
--- J 5 ---
OVER CAPACITY
```

Cause

- There is too much paper loaded on the AF-100 feed tray.
- Paper level sensor is defective
- Actuator malfunction
- Main PWB unit is defective

Problem detected

1. Elevator lower switch was pressed after paper feed was started at DC-545HC while the paper level sensor was on.

```
--- J 7 ---
CUTTER LOCK
```

Cause

- Paper does not meet specifications
- Cutter motor is defective
- Cutter position switch is defective
- Main PWB unit is defective

Problem detected

1. There was no response from the cutter position switch even though the specified time (0.6 seconds) elapsed after cutting started.

```
--- J 8 ---
CREASE LOCK
```

Cause

- Paper does not meet specifications
- Creaser motor is defective
- Creaser sensor is defective
- Main PWB unit is defective

Problem detected

1. There was no response from the creaser sensor even though the specified time (2.0 seconds) elapsed after scoring started.

```
--- E 1 ---
COVER  OPEN
```

Cause

- Actuator (N4-L224*&N4-225*) installation is incorrect
- Interlock is defective
- Main PWB unit is defective

Problem detected

1. One of the covers was open while the machine was operating.
2. One of the covers was open when the start button was pushed.

```
--- E 2 ---
RS232C ERROR
```

Cause

- CCD is defective
- Main PWB unit is defective

Problem detected

1. There was an abnormal transmission between the CCD and the DC-545.

```
--- E 3 ---
BARCODE ERROR
```

Cause

- Bar code being used does not meet specifications
- CCD is defective
- Main PWB unit is defective

Problem detected

1. The bar code could not be read even after the paper fed the specified length (50 mm) after the bar code reading operation started.

```
--- E 4 ---
REG.MARK  ERROR
```

Cause

- Reg. mark being used does not meet specifications
- CCD is defective
- Main PWB unit is defective

Problem detected

1. The reg. mark could not be read even after the paper fed the specified length (40 mm) after the reg. mark reading operation started.
2. Mark 1 was less than 4.5 mm.

```
--- E 5 ---
SLITTER ERROR
```

Cause

- Slitter sensor is defective
- Slitter positioning motor is defective
- Main PWB unit is defective

Problem detected

1. Light did not transmit to the slitter sensor when temporarily shifting inward 8 mm to detect the home position while the slitter sensor was shielded from light and the command to move the slitter was issued.
2. The slitter did not return to the predetermined position within the specified time period (refer to the table below) after the command to move the slitter was issued.

	Time until detection	
Left margin slitter	4.5 S	
Right margin slitter	5.5 S	
Left center slitter	6.0 S	
Right center slitter	6.0 S	
OP1 slitter	12.0S (OP2: When not installed)	6.0S (OP2: When installed)
OP2 slitter	6.0S (Only when OP2 is installed.)	

```
--- E 6 ---
DATA  ERROR
```

Cause

- Preset data is not registered
- Memory PWB unit is defective

Problem detected

1. Preset data was accessed that exceeds a total of 17 AUTO CUTs (see table below), JOB cuts and scores while AUTO CUT is being used.
2. There was no information in the preset data that was accessed.

Table 1: List of AUTO CUT counts

Distance from the leading edge of the paper to the first cut	AUTO CUT count
0.0 to 16.9 mm	0
17.0 to 32.9 mm	1
33.0 to 48.9 mm	2
49.0 to 64.9 mm	3
65.0 to 80.9 mm	4
81.0 to 96.9 mm	5
97.0 to 112.9 mm	6
113.0 to 128.9 mm	7
129.0 to 144.9 mm	8
145.0 to 160.9 mm	9
161.0 to 176.9 mm	10
177.0 to 192.9 mm	11
193.0 to 208.9 mm	12
209.0 to 224.9 mm	13
225.0 to 240.9 mm	14
241.0 to 256.9 mm	15
257.0 to 272.9 mm	16
273.0 to 288.9 mm	17

Distance from the last cut to the trailing edge of the paper	AUTO CUT count
0.0 to 20.9 mm	0
21.0 to 36.9 mm	2
37.0 to 51.9 mm	3
52.0 to 66.9 mm	4
67.0 to 81.9 mm	5
82.0 to 96.9 mm	6
97.0 to 111.9 mm	7
112.0 to 126..9 mm	8
127.0 to 141.9 mm	9
142.0 to 156.9 mm	10
157.0 to 171.9 mm	11
172.0 to 186.9 mm	12
187.0 to 201.9 mm	13
202.0 to 216.9 mm	14
217.0 to 231.9 mm	15
232.0 to 246.9 mm	16
247.0 to 261.9 mm	17

Example:

1. Cuts: 5 Scores: 2 First cut: 98.0 mm
   Length from the last cut to the trailing edge of the paper: 65.0 mm
   According to the table: There are 6 AUTO CUTs from the leading edge of the paper to the first cut.
   There are 4 AUTO CUTs from the last cut to the trailing edge of the paper.
   The number of cuts, scores, and AUTO CUTs is 5 + 2 + 6 + 4 = 17.
   The total is more than 17, resulting in E6: DATA ERROR.

2. Cuts: 10 Scores: 4 First cut: 10.0 mm
   Length from the last cut to the trailing edge of the paper: 20.0 mm
   According to the table: There are 0 AUTO CUTs from the leading edge of the paper to the first cut.
   There are 0 AUTO CUTs from the last cut to the trailing edge of the paper.
   The number of cuts, scores, and AUTO CUTs is 10 + 4 + 0 = 14.
   The total is less than 17, resulting in no error.

```
--- E 7 ---
CONNECTION ERROR
```

Cause

- Bad connection between AF-100 and DC-545
- Feed PCB unit is defective
- Main PWB unit is defective

Problem detected

1. Can not confirm connection between AF-100 and DC-545 while machine is operating.

IMPORTANT:

- **Be sure to turn off the power before you connect or disconnect the connectors.**

```
--- E 8 ---
ELEVATOR ERROR
```

Cause

- Elevator upper switch is defective
- Elevator lower switch is defective
- Elevator motor is defective
- Paper level sensor is defective
- Feed PCB unit is defective
- Main PWB unit is defective

Problem detected

1. Elevator was not detected at elevator upper switch, elevator lower switch, or paper level sensor after the specified time (* seconds) after the command to operator the elevator was issued.

* 10 seconds when rising at start-up, 3.5 seconds when paper is being fed, 9 seconds when going down at shut-down

NOTE :

- **When this error occurs there is a possibility that the screws pressing on the spring, or the elevator up and down switch are damaged.**

Chapter 7 HELP Mode

1 **HELP Mode List 140**

2 **Functions and operation procedures for each HELP mode 141**
(1) Accessing HELP mode 141

3 **HELP Description 142**

4 **Select Language for Displays 150**

7

1 HELP Mode List

HELP Mode No.	Description	Classification
H-00	ROM version indication	ROM version display
H-01	Total cut counter	Total counts
H-02	Total feed counter	Total counts
H-03	PPS1 check	Sensor condition display
H-04	PPS2 check	Sensor condition display
H-05	PPS3 check	Sensor condition display
H-06	PPS4 check	Sensor condition display
H-07	PPS5 check	Sensor condition display
H-08	Sensor & switch check	Sensor/switch condition display
H-09	DIP SW status check	Dipswitch condition display
H-10	Feed motor check	Function testing
H-11	Feed solenoid check	Function testing
H-12	Left margin slitter check	Function testing
H-13	Right margin slitter check	Function testing
H-14	Left center slitter check	Function testing
H-15	Right center slitter check	Function testing
H-16	OP1 slitter check	Function testing
H-17	Main motor check	Function testing
H-18	Score check	Function testing
H-19	Cutter check	Function testing
H-20	Slitter blade drive check	Function testing
H-21	LED check	Function testing
H-22	CCD performance check	Adjustment/specification setting
H-23	Total score counter	Total counts
H-24	Slitter position adj.	Adjustment/specification setting
H-25	RAM initialize	Initialize
H-26	Cutter & score distance adj.	Adjustment/specification setting
H-27	PPS2 & CCD distance adj.	Adjustment/specification setting
H-28	OP2 slitter check (Option slitter 2)	Function testing
H-29	Elevator check (Optional AF-100)	Function testing
H-30	Fan Check (Optional AF-100)	Function testing
H-31	Solenoid & Feed check (Optional AF-100)	Function testing
H-32	Feeder Total check (Optional AF-100)	Function testing
H-33	SPEED UP	Adjustment/specification setting
H-34	CCD	Adjustment/specification setting

2 Functions and operation procedures for each HELP mode

(1) Accessing HELP mode

1) When the machine is in use, put it in standby and then turn “OFF” the power switch.

2) Turn the power switch “ON” while pressing the <Stop> key. The “HELP mode” is displayed.

3) Select the “HELP mode no.” setting that you want to change by pressing the <+> key and the <-> key.

4) Press the <Start> key.
   Enter the “HELP mode” that you selected in Step 3.
   Follow the procedure for each of the various “HELP modes” described below.

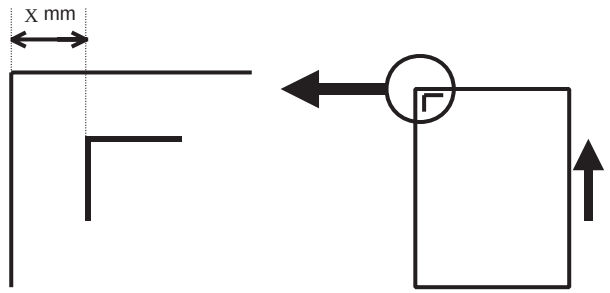
3 HELP Description

HELP No.	Adjustments and checks	Contents and descriptions
H-00	ROM version indication	The version of the ROM that is mounted on the main PWB (U32) is displayed. H-00:ROM VERSION Ver.-*.**
H-01	Total cut counter display	The number of cuts the cutter has done is displayed. The top counter can not be cleared. The bottom counter can be cleared by pressing the <CLEAR> key for 3 seconds or more. ******** ********
H-02	Total feed counter display	The number of pages that the machine has fed is displayed. The top counter can not be cleared. The bottom counter can be cleared by pressing the <CLEAR> key for 3 seconds or more. ******** ********
H-03	PPS1 check	The level of the PPS of the paper supply is displayed. PPS level is below 30 when there is no paper at PPS. 03:PPS1CHECK PPS1(0-255):***
H-04	PPS2 check	Displays the level of the PPS located after roller 1. PPS level is below 30 when there is no paper at PPS. 04:PPS2CHECK PPS2(0-255):***
H-05	PPS3 check	Displays the level of the PPS located before the cutter. PPS level is below 60 when there is no paper at PPS. 05:PPS3CHECK PPS3(0-255):***
H-06	PPS4 check	Displays the level of the PPS at the exit tray. PPS level is below 30 when there is no paper at PPS. 06:PPS4CHECK PPS4(0-255):***
H-07	Not used	Not used

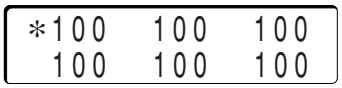
HELP No.	Adjustments and checks	Contents and descriptions
H-08	Sensor & switch status display	Displays the status of each sensor and switch. a b c d e f g h i j k l m n o p q r s t u v w a ... PPS1 No paper (0) Paper (1) b ... PPS2 No paper (0) Paper (1) c ... PPS3 No paper (0) Paper (1) d ... PPS4 No paper (0) Paper (1) e ... Not used f .... Slitter sensor (left margin) Light transmitted (0) Light not transmitted (1) g ... Slitter sensor (right margin) Light transmitted (0) Light not transmitted (1) h ... Slitter sensor (left center) Light transmitted (0) Light not transmitted (1) I .... Slitter sensor (right center) Light transmitted (0) Light not transmitted (1) j .... Slitter sensor (OP1) Light transmitted (0) Light not transmitted (1) k ... Score position sensor Light transmitted (0) Light not transmitted (1) L ... Cutter position switch ON (0) OFF (1) m .. Cover switch OPEN (0) CLOSE (1) n ... Not used o ... Slitter sensor (OP2) Light transmitted (0) Light not transmitted (1) p ... Not used q ... Connection check (option) Connected (0) Not connected (1) r .... Elevator upper limit switch (Option) ON(0) OFF (1) s ... Elevator lower limit switch (Option) ON (0) OFF (1) t .... Not used u ... PPS paper supply level (option) No paper(0) Paper (1) v ... Elevator sensor (option) Light not transmitted (0) Light transmitted (1) w ... Feeder cover switch (option) CLOSE(0) OPEN (1)
H-09	DIP SW status display	Displays the status of the DIP SW on the main PWB. 09:DIP SW CHECK DIP:1234 RDIP:* DIP SW1 .... (OFF) Use memory board (ON) Do not use memory board 2 .... Not used 3 .... (OFF) HC model (ON) Not used 4 .... (OFF) Normal operation (ON) Slitter always returns to home position RDIP (Rotary dipswitch) Compensates for mechanical differences between PPS3 and the cutter. It is set as a factory default. The display is 0 to 9 and A to F.
H-10	Feed motor function test	Feed motor (stepping motor) function test. Motor runs when the <+> key is pressed. 10:FEED STEP CK

HELP No.	Adjustments and checks	Contents and descriptions
H-11	Feed solenoid function test	Feed solenoid function test Pre-solenoid operates when the <+> key is pressed. Gate solenoid operates when the <-> key is pressed. **NOTE :** • **Pressing the key for more than 2 seconds may damage the solenoid.** +KEY:PRESS SOL. -KEY:GATE SOL.
H-12	Left margin slitter (stepping motor) function test	Left margin slitter positioning motor (stepping motor) function test Slitter moves to the left (opposite the operation panel) when the <+> key is pressed. Slitter moves to the right (toward the operation panel) when the <-> key is pressed. +KEY:GOTO LEFT -KEY:GOTO RIGHT
H-13	Right margin slitter (stepping motor) function test	Right margin slitter positioning motor (stepping motor) function test Slitter moves to the left (opposite the operation panel) when the <+> key is pressed. Slitter moves to the right (toward the operation panel) when the <-> key is pressed. +KEY:GOTO LEFT -KEY:GOTO RIGHT
H-14	Left center slitter (stepping motor) function test	Left center slitter positioning motor (stepping motor) function test Slitter moves to the left (opposite the operation panel) when the <+> key is presseds. Slitter moves to the right (toward the operation panel) when the <-> key is pressed. +KEY:GOTO LEFT -KEY:GOTO RIGHT
H-15	Right center slitter (stepping motor) function test	Right center slitter positioning motor (stepping motor) function test Slitter moves to the left (opposite the operation panel) when the <+> key is pressed. Slitter moves to the right (toward the operation panel) when the <-> key is pressed. +KEY:GOTO LEFT -KEY:GOTO RIGHT

HELP No.	Adjustments and checks	Contents and descriptions
H-16	OP1 slitter (stepping motor) function test	OP1 slitter positioning motor (stepping motor) function test Slitter moves to the left (opposite the operation panel) when the <+> key is pressed. Slitter moves to the right (toward the operation panel) when the <-> key is pressed. +KEY:GOTO LEFT -KEY:GOTO RIGHT
H-17	Main motor (stepping motor) function test	Main motor function test Motor runs when the <Start> key is pressed. Motor stops when the <Stop> key is pressed. 17:MAIN MOTOR CK
H-18	Score (stepping mode) function test	Score motor function test Motor runs forward when the <+> key is pressed. Motor runs backward when the <-> key is pressed. +,-KEY:SCORE ON
H-19	Cutter (stepping mode) function test	Cutter motor function test Motor runs forward when the <+> key is pressed. Motor runs backward when the <-> key is pressed. +,-KEY:CUT ON
H-20	Slitter blade drive (stepping mode) function test	Slitter drive motor function test Slitter drive motor (forward) runs when the <+> key is pressed. Slitter drive motor (backward) runs when the <-> key is pressed. +,-KEY:SLIT ON
H-21	LED function test	The LEDs shown below flash COVER, JAM, PAPER, and START on the operation panel PAPER, FEED, and LED on the paper supply 21:LED CHECK

<table>
<tr><th>HELP No.</th><th>Adjustments and checks</th><th>Contents and descriptions</th></tr>
<tr><td>H-22</td><td>CCD performance (stepping mode) function test</td><td>Confirms CCD scanner functions
CCD lights read and the counter (CNT) is displayed.
When the vertical line located 10 mm from the left edge of the paper is read, the CNT value is 70 +/- 1.
NOTE :
• The CCD may remain lit until the power is turned off after it has been turned on once.
When the check is finished, turn off the power.
+KEY:CCD ON
CNT:****
 

<table>
<tr><th>X(mm)</th><th>CNT</th></tr>
<tr><td>1</td><td>15±1</td></tr>
<tr><td>2</td><td>21±1</td></tr>
<tr><td>3</td><td>27±1</td></tr>
<tr><td>4</td><td>33±1</td></tr>
<tr><td>5</td><td>40±1</td></tr>
<tr><td>6</td><td>46±1</td></tr>
<tr><td>7</td><td>52±1</td></tr>
<tr><td>8</td><td>58±1</td></tr>
<tr><td>9</td><td>64±1</td></tr>
<tr><td>10</td><td>70±1</td></tr>
<tr><td>11</td><td>76±1</td></tr>
<tr><td>12</td><td>82±1</td></tr>
<tr><td>13</td><td>88±1</td></tr>
<tr><td>14</td><td>94±1</td></tr>
<tr><td>15</td><td>101±1</td></tr>
<tr><td>16</td><td>107±1</td></tr>
<tr><td>17</td><td>113±1</td></tr>
<tr><td>18</td><td>119±1</td></tr>
<tr><td>19</td><td>126±1</td></tr>
<tr><td>20</td><td>132±1</td></tr>
</table></td></tr>
<tr><td>H-23</td><td>Total score counter display</td><td>Displays the total number of scores.
The top counter can not be cleared.
The bottom counter can be cleared by pressing the <CLEAR> key for 3 seconds or more.
****
********</td></tr>
</table>

HELP No.	Adjustments and checks	Contents and descriptions
H-24	Position adjustment for each slitter	Adjust the slit position of each slitter.   ① The "*" mark moves each time the <SET> key is pressed. Move the "*" mark to the left side of the value of the slitter that you want to set. ② Change the values with the <+> and <-> keys to make adjustments.(Refer to the table below for distance moved.) • The slitter position moves 0.08 mm when the value changes by 1. • The slitter shifts inwards (opposite the inner side) when the value increases. • The slitter shifts outwards (to the inner side) when the value decreases. ③ Register the adjusted value that you decided on by pressing the <STOP> key.

Distance moved (mm)	Value input	Distance moved (mm)	Value input	Distance moved (mm)	Value input	Distance moved (mm)	Value input
0.1	1	2.1	26	4.1	51	6.1	76
0.2	2	2.2	27	4.2	52	6.2	77
0.3	4	2.3	29	4.3	54	6.3	79
0.4	5	2.4	30	4.4	55	6.4	80
0.5	6	2.4	30	4.5	56	6.5	81
0.6	7	2.6	32	4.6	57	6.6	82
0.7	9	2.7	34	4.7	59	6.7	84
0.8	10	2.8	35	4.8	60	6.8	85
0.9	11	2.9	36	4.9	61	6.9	86
1.0	12	3.0	37	5.0	62	7.0	87
1.1	14	3.1	39	5.1	64	7.1	89
1.2	15	3.2	40	5.2	65	7.2	90
1.3	16	3.3	41	5.3	66	7.3	91
1.4	17	3.4	42	5.4	67	7.4	92
1.5	19	3.5	44	5.5	69	7.5	94
1.6	20	3.6	45	5.6	70	7.6	95
1.7	21	3.7	46	5.7	71	7.7	96
1.8	22	3.8	47	5.8	72	7.8	97
1.9	24	3.9	49	5.9	74	7.9	99
2.0	25	4.0	50	6.0	75	8.0	100

Table of distance moved (H-24)

HELP No.	Adjustments and checks	Contents and descriptions
H-25	Initialization of RAM	Initialize the RAM. The entire RAM memory (including the pre-set data) is initialized by pressing the <MODE> key and the <SET> key. (It takes about 10 seconds.) Initialize the RAM memory except for the pre-set data by pressing the <+> key and the <-> key. (It takes about 2 seconds.) **NOTE :** • **Do not touch the operation panel when "FINISH!!" is displayed. Also, do not turn off the power.**

H-26	Cutter & score distance adjustment	Compensates for mechanical differences between the cutter and the scorer.
		Use the <+> key and the <-> key to adjust the score position, and then register it with the <STOP> key.
		`26:SCORE DIST.`
		`DISTANCE:***`

H-27	PPS2 & CCD distance adjustment	**NOTE :**
		• **Do not do the following operations except when changing the Main P.W.B. unit.**
		Compensates for mechanical differences between the PPS2 and the CCD.
		Use the <+> key and the <-> key to adjust the score position, and then register it with the <STOP> key.
		The processing (cutting or scoring) position moves 0.1 mm when the value changes by 1. However, this is only enabled when REG. MARK is ON.
		`27:CCD DIST.`
		`DISTANCE:***`

H-28	OP2 positioning motor check (When the optional slitter 2 is attached.)	OP2 positioning motor (stepping) function test (when the option is installed)
		Motor moves to the left (opposite the operation panel) when the <+> key is pressed.
		Motor moves to the right (toward the operation panel) when the <-> key is pressed.
		`+KEY:GOTO LEFT`
		`-KEY:GOTO RIGHT`

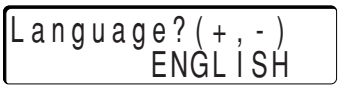
H-29	Elevator check (Optional AF-100)	Elevator function test (when the option is installed)
		Elevator moves up when the <+> key is pressed. (The upper limit switch stops the elevator.)
		Elevator moves down when the <+> key is pressed. (The lower limit switch stops the elevator.)
		`+KEY:ELEV.UP`
		`-KEY:ELEV.DWN`

HELP No.	Adjustments and checks	Contents and descriptions
H-30	Fan check (Optional AF-100)	Fan motor function test (when the option is installed) Suction fan operates when the <+> key is pressed. Blower fan operates when the <-> key is pressed. +KEY:FAN1 ON -KEY:FAN2 ON
H-31	Solenoid and feed check (Optional AF-100)	Shutter solenoid and feed motor function test (when the option is installed) The shutter solenoid operates when the <+> key is pressed. The feed motor operates when the <-> key is pressed. **NOTE :** • **Do not press the <+> for more than 2 seconds. Doing so may damage the solenoid.** +KEY:SOL.ON -KEY:FEED ON
H-32	Feeder function test (Optional AF-100)	Optional feeder sequential function test (when the option is attached) Elevator moves up when the <+> key is pressed. (The upper limit switch stops the elevator.) Elevator moves down when the <+> key is pressed. (The lower limit switch stops the elevator.) +KEY:ELEV.UP -KEY:ELEV.DWN
H-33	Specify slitter movement control method	Switch the slitter control method when REG. MARK is ON. ON : Slitter moves just the amount of drift as the REG. MARK scan indicates. (It returns to the home position under the following conditions.) OFF : Slitter returns to the home position as the REG. MARK is scanned. <Conditions under which the slitter returns to the home position when REG. MARK is ON> ① When processing immediately after the power is turned on. ② When processing after an error. ③ When processing after paper was cut. ④ When processing after opening a cover. ⑤ When the job changes.
H-34	CCD	Change the method to adjust the main motor when reading the Reg. Mark. Select CCD2 if a E4 : REG. MARK ERROR occurs whether or not the Reg. Mark are printed correctly. Usually CCD1 is used. CCD1 : Turn on the main motor's magnetization when reading Reg. Marks. CCD2 : Turn off the main motor's magnetization when reading Reg. Marks. **NOTE :** • **A sound occurs when reading Reg. Marks when CCD2 is selected, but this in not a malfunction.** CCD SCAN. *CCD1 CCD2

4 Select Language for Displays

① When operating the machine, put it in standby mode, and then turn the power “OFF”.

② Turn the power “ON” while pressing the <F> key and the <CLEAR> key.
The message shown below is displayed.



③ Select a language with the <+> key and the <-> key. (The language is stored when it is switched.)

1. ENGLISH
2. FRENCH
3. JAPANESE
4. GERMAN
5. SPANISH
6. ENGLISH(ICON)

④ Turn off the power to finish.

Chapter 8 Miscallaneous

1 Job List 152

2 Position and Function of Electronic Parts 156
1. Schematic drawing of electronic parts 156
2. Connector, VR and LED layout 159

3 Overall Wiring Diagram 161
1. DC-545 161
2. AF-100 162
3. Connector 163

1 Job List

PROGRAM NUMBER	#1*	#2	#3	#4	#5	#6	#7	#8
Job Type	Cut in half	SM CARD	Trading 8up letter	Trading 8up ledger	WALLET	3.5 x 5	4 x 6	5 x 7
MARK 1	47	47	47	47	47	47	47	47
MARK 2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
LEFT SL	0	9.5	12.7	31.8	12.7	8.3	31.8	8.3
RGHT SL	0	269.9	266.7	247.7	203.2	271.1	0	271.1
C.L. SL	0	136.5	76.2	95.3	76.2	135.3	0	135.3
C.R. SL	0	0	203.2	184.2	0	0	184.2	0
OP1 SL	0	142.9	139.7	108.0	139.7	144.1	0.0	144.1
OP2 SL								
CUT1	139.7	25.4	19.1	22.2	15.2	17.1	28.6	19.1
CUT2	0	190.3	108.0	111.1	101.6	106.0	130.2	196.9
CUT3	0	0	114.3	123.8	188.0	114.9	149.2	0
CUT4	0	0	203.2	212.7	274.3	203.8	250.8	0
CUT5	0	0	0	225.4	0	0	0	0
CUT6	0	0	0	314.3	0	0	0	0
CUT7	0	0	0	327.0	0	0	0	0
CUT8	0	0	0	415.9	0	0	0	0
CUT9	0	0	0	0	0	0	0	0
CUT10	0	0	0	0	0	0	0	0
SCR. 1	0	107.4	0	0	0	0	0	0
SCR. 2	0	0	0	0	0	0	0	0
SCR. 3	0	0	0	0	0	0	0	0
SCR. 4	0	0	0	0	0	0	0	0
TOTAL LENGTH	279.4	215.9	215.9	431.8	279.4	215.9	279.4	215.9

NOTES
THESE VALUES ARE CURRENT AS OF OCTOBER 2002
ALL DIMENSIONS ARE IN MILLIMETERS
8.5 X 11 inches = 215.9 X 279.4 millimeters
11 X 17 inches = 279.4 X 431.8 millimeters

***Be sure to turn off AUTO CUT.**

PROGRAM NUMBER	#9	#10	#11	#12	#13	#14	#15	#16
Job Type	8 x 10	Pan	1up Lg Card	2up Scrapbook	2up Postcard	11up Business Card	4up Business Postcard	Large Brochure
MARK 1	47	47	47	47	47	47	47	47
MARK 2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
LEFT SL	6.4	12.7	13.5	6.4	31.8	6.4	6.4	9.5
RGHT SL	209.6	203.2	202.4	272.9	0	209.6	209.6	269.9
C.L. SL	0	101.6	0	136.4	0	57.2	108.0	0
C.R. SL	0	0	0	0	184.2	158.8	0	0
OP1 SL	0	114.3	0	142.9	0	108.0	0	0
OP2 SL								
CUT1	17.1	19.1	12.7	12.7	28.6	6.4	12.7	16.9
CUT2	271.1	266.7	266.7	419.1	130.2	95.3	139.7	415.9
CUT3	0	0	0	0	149.2	184.2	266.7	0
CUT4	0	0	0	0	250.8	273.1	0	0
CUT5	0	0	0	0	0	0	0	0
CUT6	0	0	0	0	0	0	0	0
CUT7	0	0	0	0	0	0	0	0
CUT8	0	0	0	0	0	0	0	0
CUT9	0	0	0	0	0	0	0	0
CUT10	0	0	0	0	0	0	0	0
SCR. 1	0	0	139.2	215.4	0	0	0	215.9
SCR. 2	0	0	0	0	0	0	0	0
SCR. 3	0	0	0	0	0	0	0	0
SCR. 4	0	0	0	0	0	0	0	0
TOTAL LENGTH	279.4	279.4	279.4	431.8	279.4	279.4	279.4	431.8

NOTES
THESE VALUES ARE CURRENT AS OF OCTOBER 2002
ALL DIMENSIONS ARE IN MILLIMETERS
8.5 X 11 inches = 215.9 X 279.4 millimeters
11 X 17 inches = 279.4 X 431.8 millimeters

PROGRAM NUMBER	#17	#18*	#19*	#20	#21
Job Type	3-Fold Brochure	Tri-Cut	Fourths	Fold in Half	Tri-Fold
MARK 1	47	47	47	47	47
MARK 2	9.2	9.2	9.2	9.2	9.2
LEFT SL	41.3	0	0	0	0
RGHT SL	238.1	0	0	0	0
C.L. SL	0	0	108	0	0
C.R. SL	0	0	0	0	0
OP1 SL	0	0	0	0	0
OP2 SL					
CUT1	25.4	93.1	139.7	0	0
CUT2	406.4	186.2	0	0	0
CUT3	0	0	0	0	0
CUT4	0	0	0	0	0
CUT5	0	0	0	0	0
CUT6	0	0	0	0	0
CUT7	0	0	0	0	0
CUT8	0	0	0	0	0
CUT9	0	0	0	0	0
CUT10	0	0	0	0	0
SCR. 1	153.4	0	0	139.7	94.1
SCR. 2	280.4	0	0	0	187.2
SCR. 3	0	0	0	0	0
SCR. 4	0	0	0	0	0
TOTAL LENGTH	431.8	279.4	279.4	279.4	279.4

NOTES
THESE VALUES ARE CURRENT AS OF OCTOBER 2002
ALL DIMENSIONS ARE IN MILLIMETERS
8.5 X 11 inches = 215.9 X 279.4 millimeters
11 X 17 inches = 279.4 X 431.8 millimeters

***Be sure to turn off AUTO CUT.**

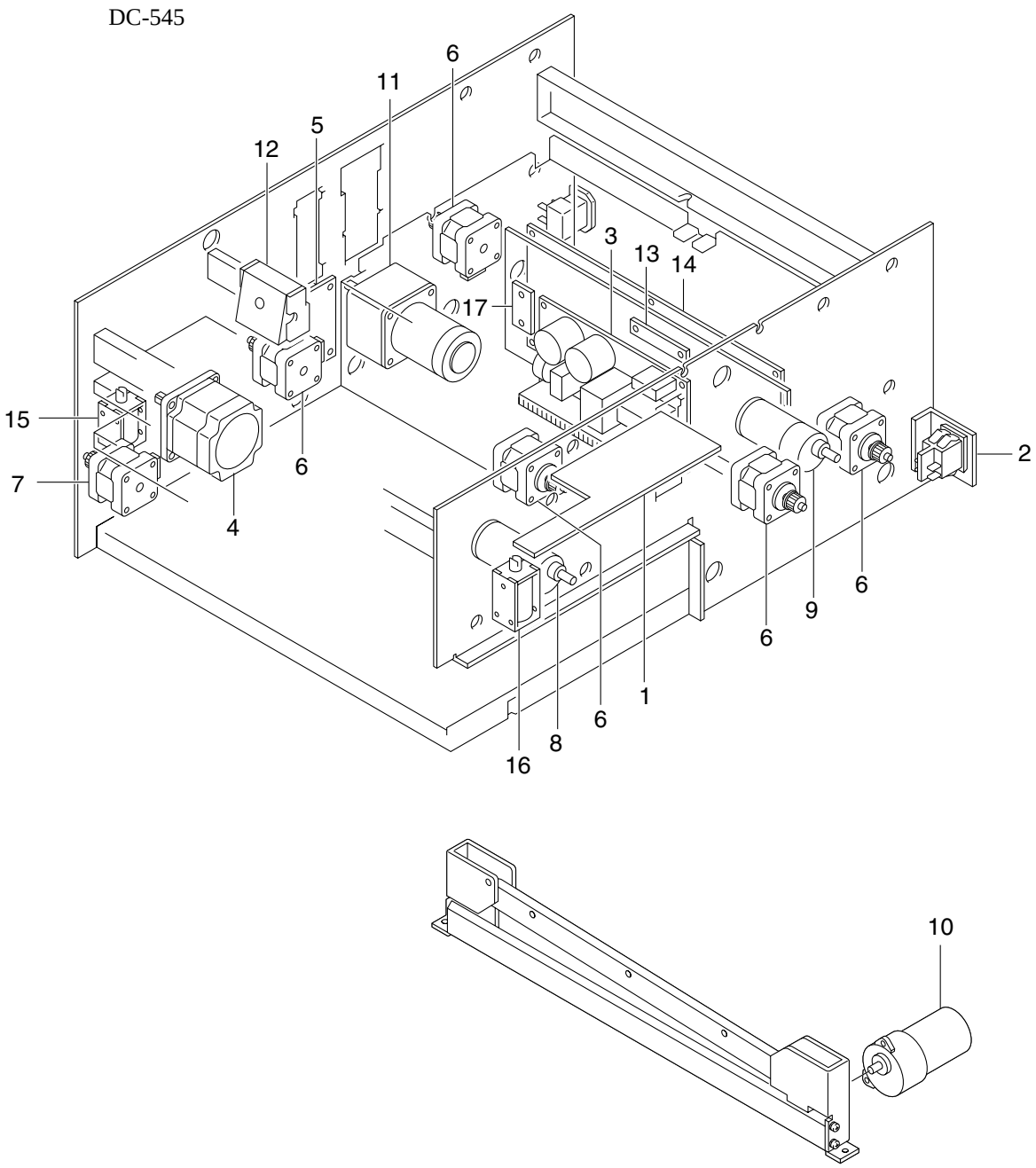
Job during installation

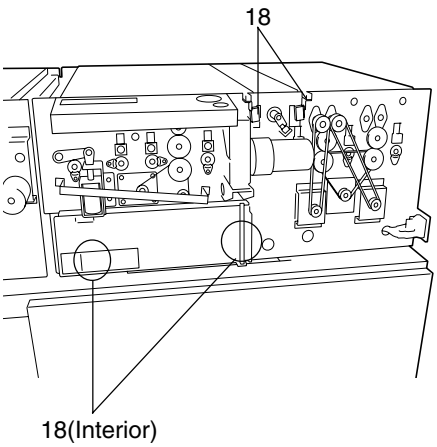
Job while installing the AF-100
STEP21: P-77 (REG off + BC off): AF-100 to DC-545 Mounting Alignment
STEP21: P-78 (REG off + BC off): AF-100 to DC-545 Mounting Alignment (With OP2 SL)
STEP22: P-79 (REG off + BC off): Lead Edge Length & Score Position

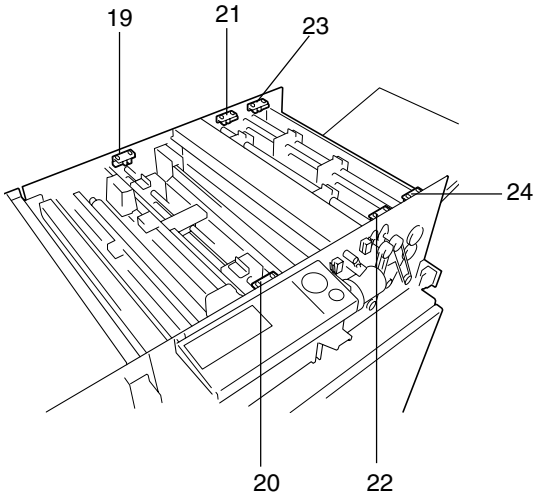
No.	72	73	74	75	76	77	78	79	80
Job Type									
MARK 1	70	70	70	70	70	70	70	70	82
MARK 2	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0
LEFT SL	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	12.0
RGHT SL				270.0		218.0	270.0	200.0	202.0
C.L. SL	62.0					62.0	62.0		
C.R. SL			218.0			166.0	218.0		
OP1 SL		114.0				114.0	114.0		
OP2 SL					166.0		166.0		
CUT1	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	8.0
CUT2	206.0	206.0	206.0	206.0	206.0	206.0	206.0	270.0	268.0
CUT3									
CUT4									
CUT5									
CUT6									
CUT7									
CUT8									
CUT9									
CUT10									
SCR. 1								114.0	112.0
SCR. 2									
SCR. 3									
SCR. 4									
TOTAL LENGTH	216.0	216.0	216.0	216.0	216.0	216.0	216.0	297.0	297.0

2 Position and Function of Electronic Parts

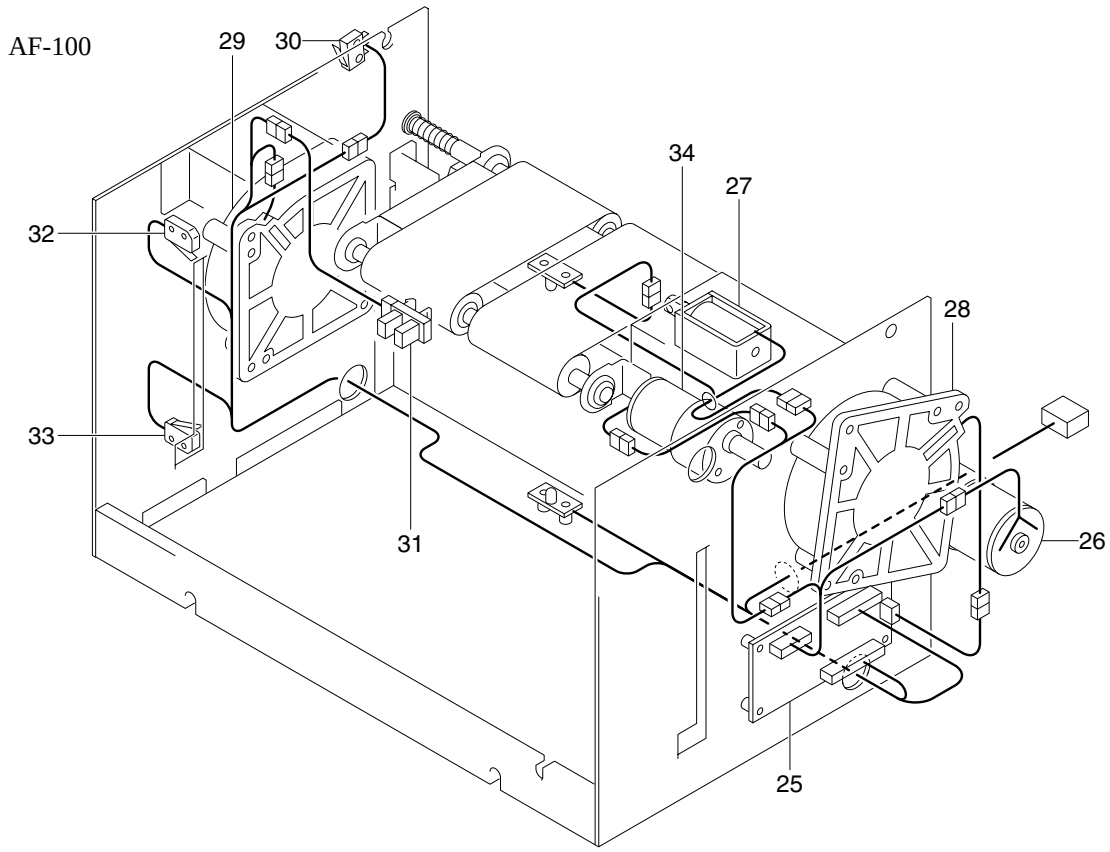
(1) Schematic drawing of electronic parts







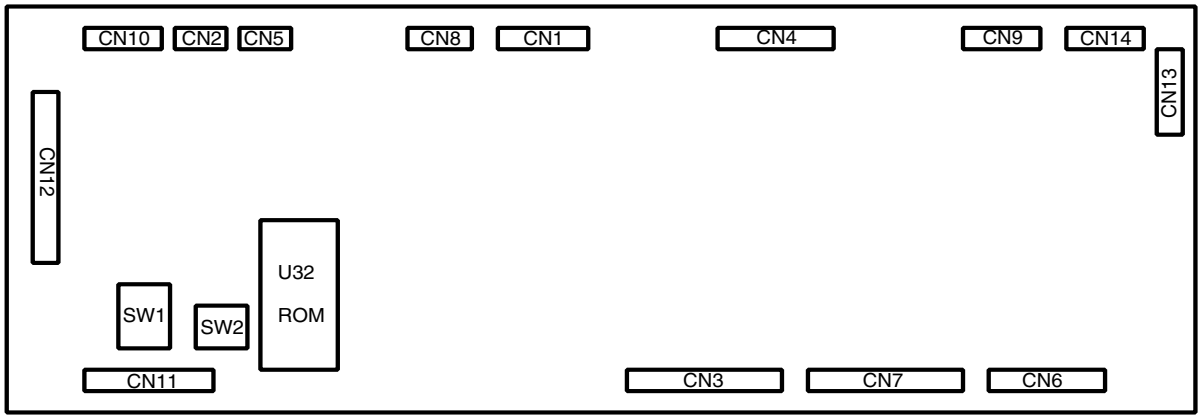
Part name	Number	Function
Panel P.W.B. unit	1	Operation panel and display
Power switch	2	Switch to turn on the power
Switching power supply	3	DC power supply (AC 100 to 240 V → DC 24 V)
Stepping motor	4	Main motor
Motor driver	5	Driver for the main motor
Stepping motor	6	Slitter drive motor
	7	Feed stepping motor
Gear motor	8	Margin slitter drive motor
	9	Center slitter drive motor
DC Gear motor	10	Cutter drive motor
DC Gear motor	11	Score drive motor
CCD sensor	12	For reading the bar codes and reg. marks
Memory P.W.B. unit	13	For saving job data
Main P.W.B. unit	14	For controlling the DC-545
Solenoid	15	For controlling the gate (not used by DC-545HC)
Solenoid	16	Paper feed solenoid
Power P.W.B. unit	17	Printed wiring board for the power supply (DC 24 V→ DC 5 V & 24 V)
Micro Switch	18	For detecting cutter motor interlock and whether the cover is open or closed
Photo Micro Switch	19	Home position for the left margin slitter
	20	Home position for the right margin slitter
	21	Home position for the left center slitter
	22	Home position for the right center slitter
	23	Home position for the OP1 slitter
	24	Home position for the OP2 slitter



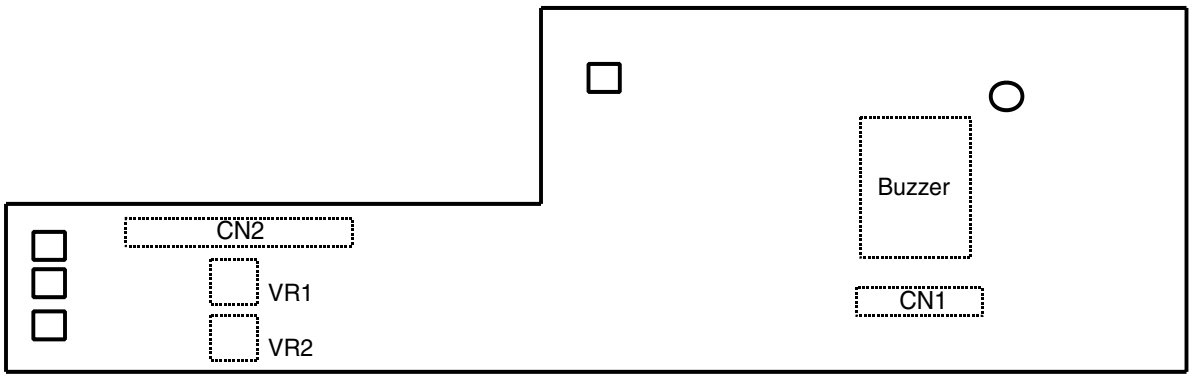
Part name	Number	Function
Feed PCB unit	25	AF-100 drive
Gear motor	26	Paper feed belt drive
Solenoid	27	Solenoid for opening and closing the shutter
Fan motor	28	Intake fan
	29	Exhaust fan
Micro switch	30	For detecting whether the top cover is open or closed
Photo micro sensor	31	For detecting paper level
Micro switch	32	For detecting the upper limit of the elevator
	33	For detecting the lower limit of the elevator
Gear motor	34	Elevator drive motor

(2) Connector, VR and LED layout

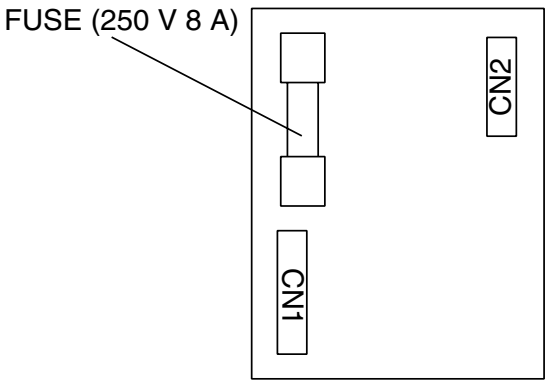
1) Main P.W.B. Unit N4-V300*



2) Panel P.W.B. Unit N4-V301*

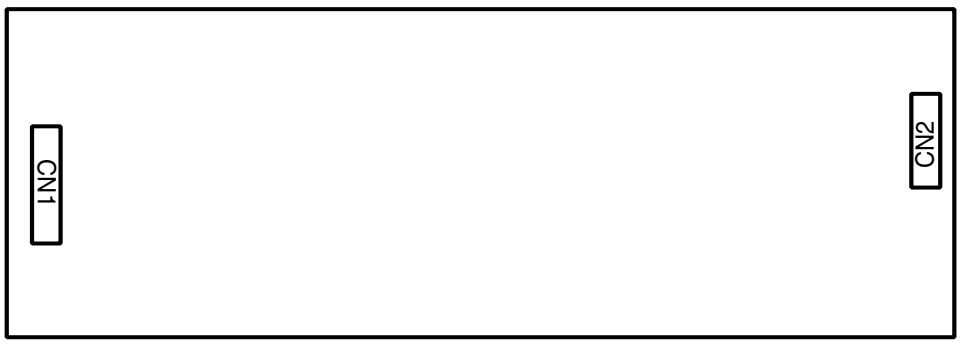


3) Power P.W.B. Unit N4-V302*

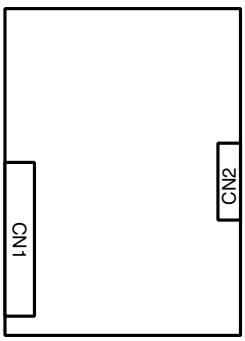


4) Memory P.W.B. Unit K9-V212*

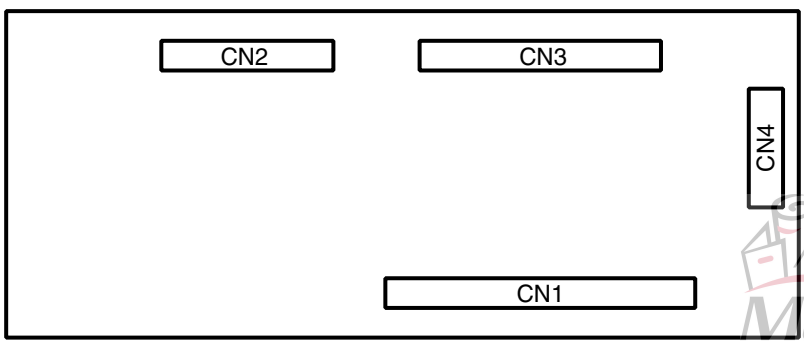
5) Switching Power Supply UA023



6) Motor Driver L8-X101*

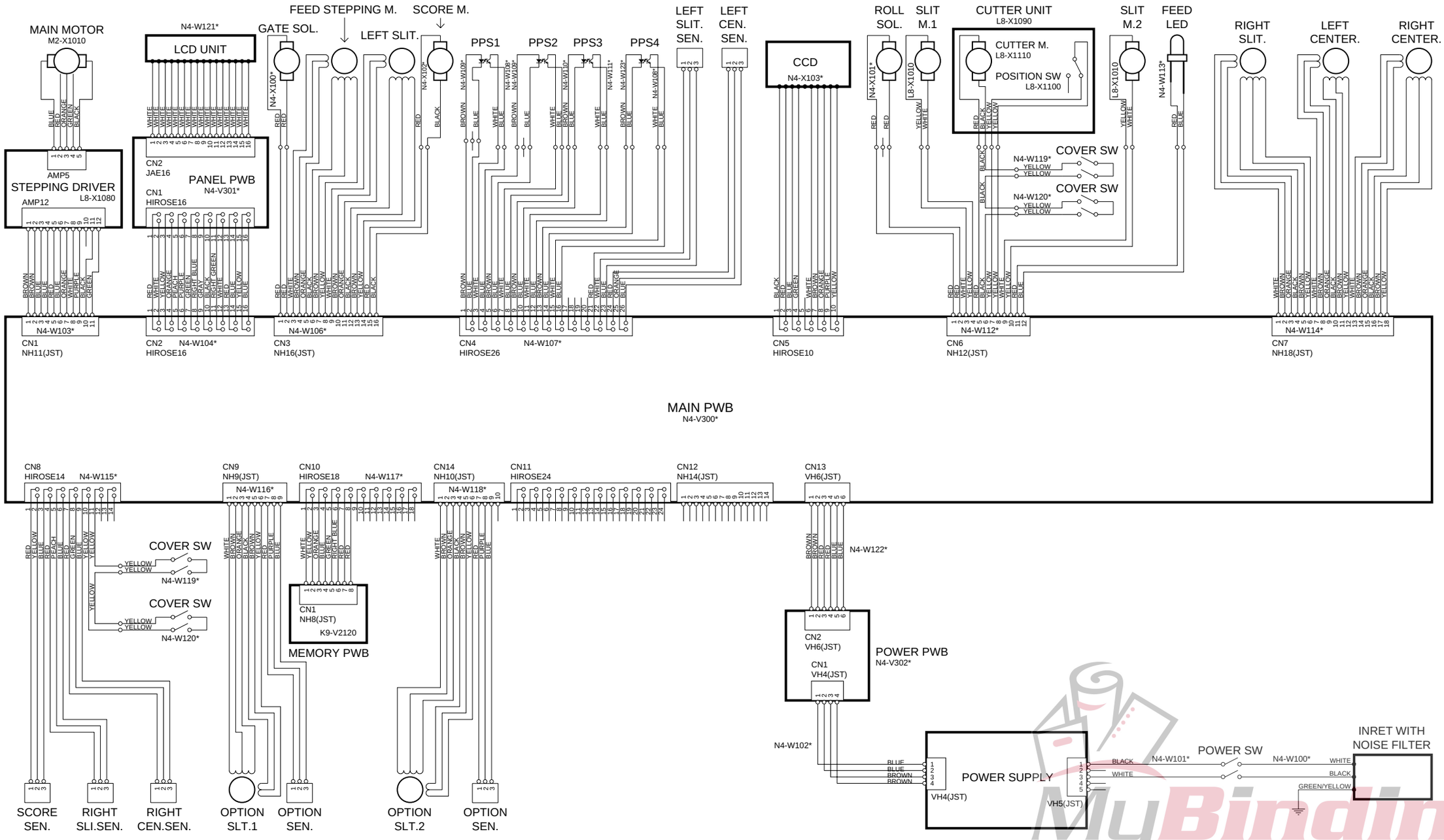


7) Feed P.C.B. Unit N4-V303*

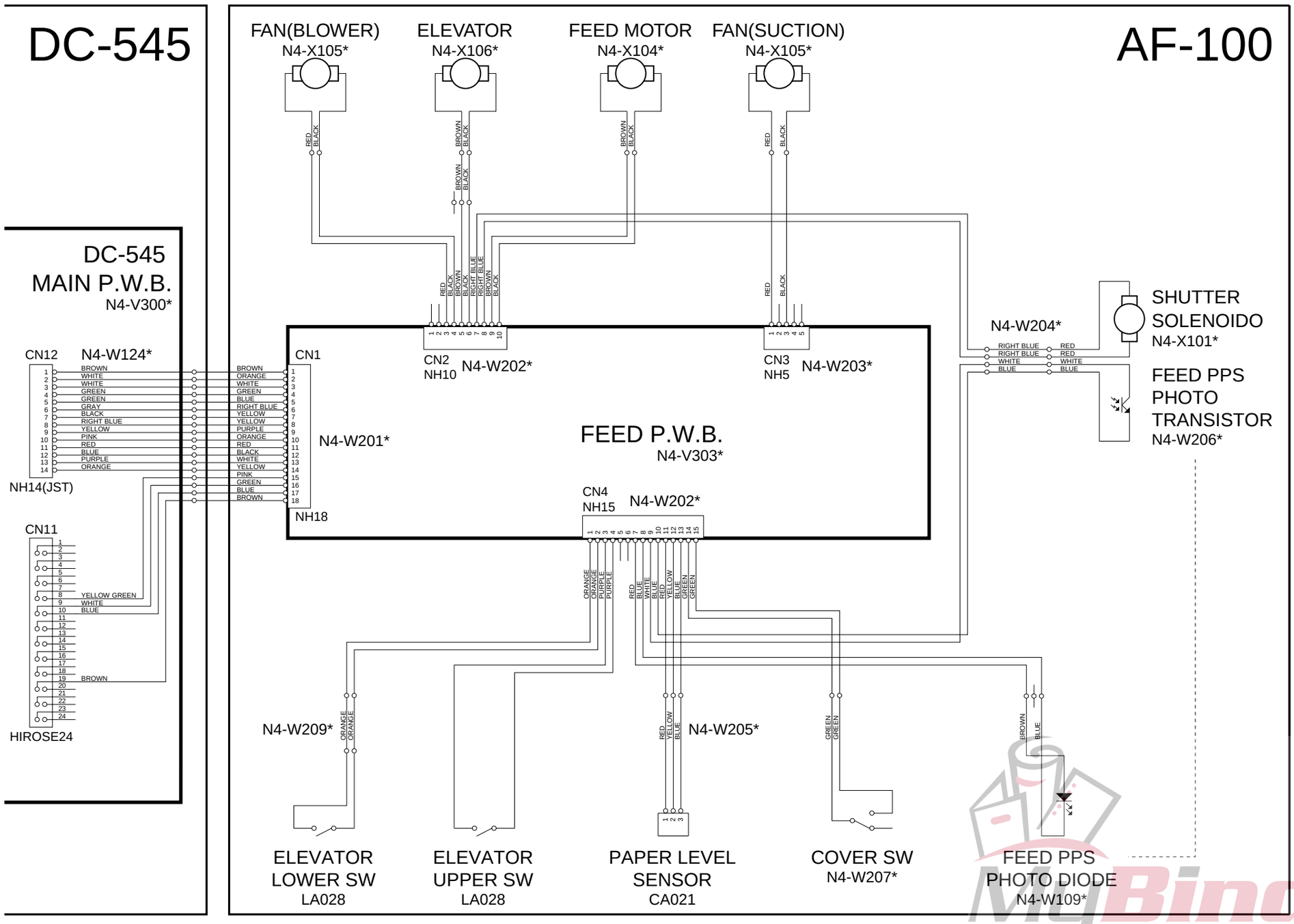


3 Overall Wiring Diagram

(1) DC-545

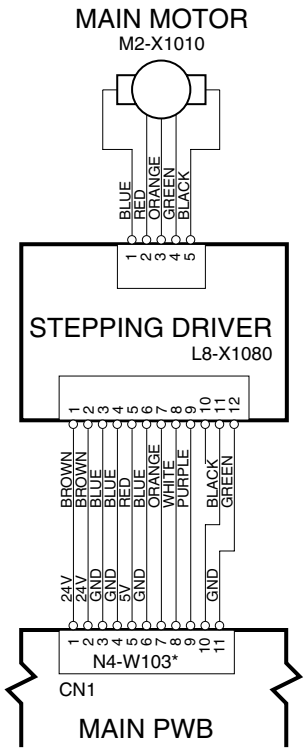


(2) AF-100

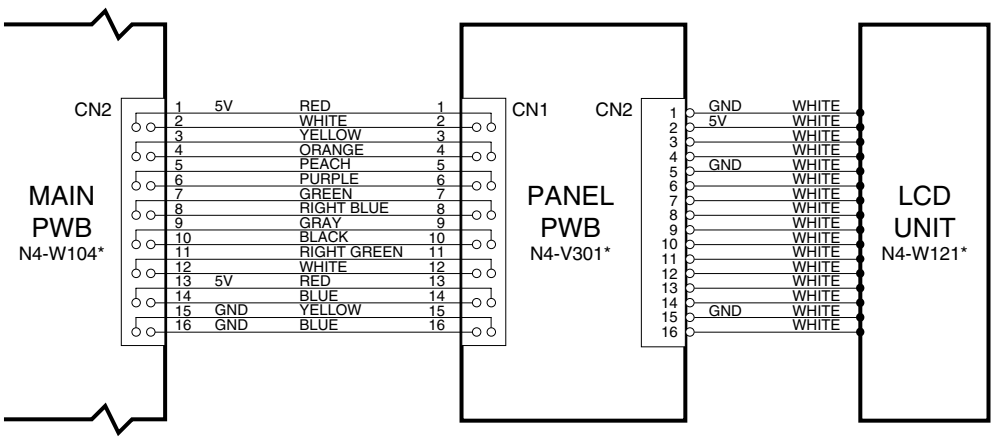


(3) Connector

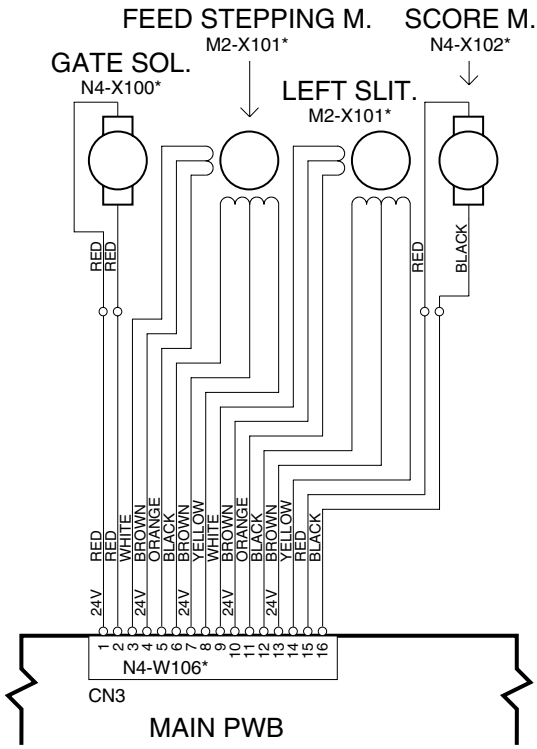
1) Main P.W.B. CN1



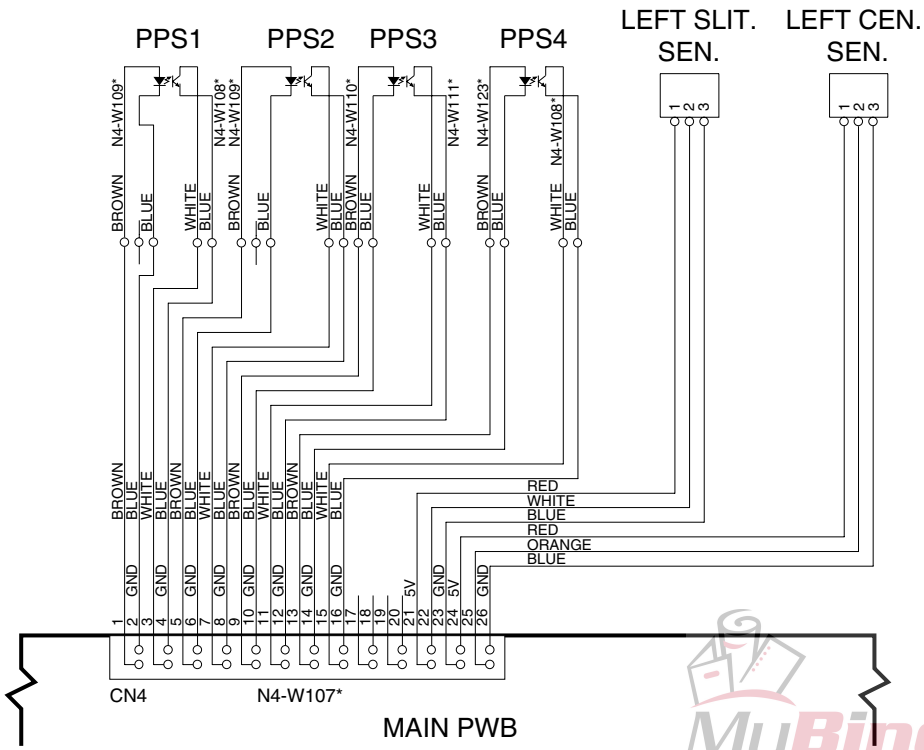
2) Main P.W.B. CN2



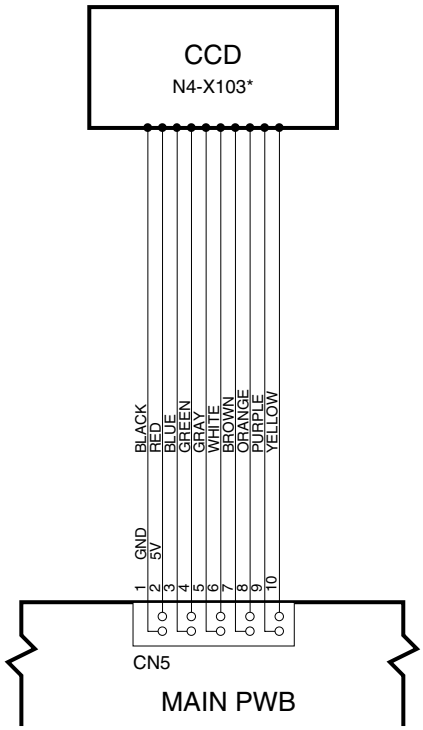
3) Main P.W.B. CN3



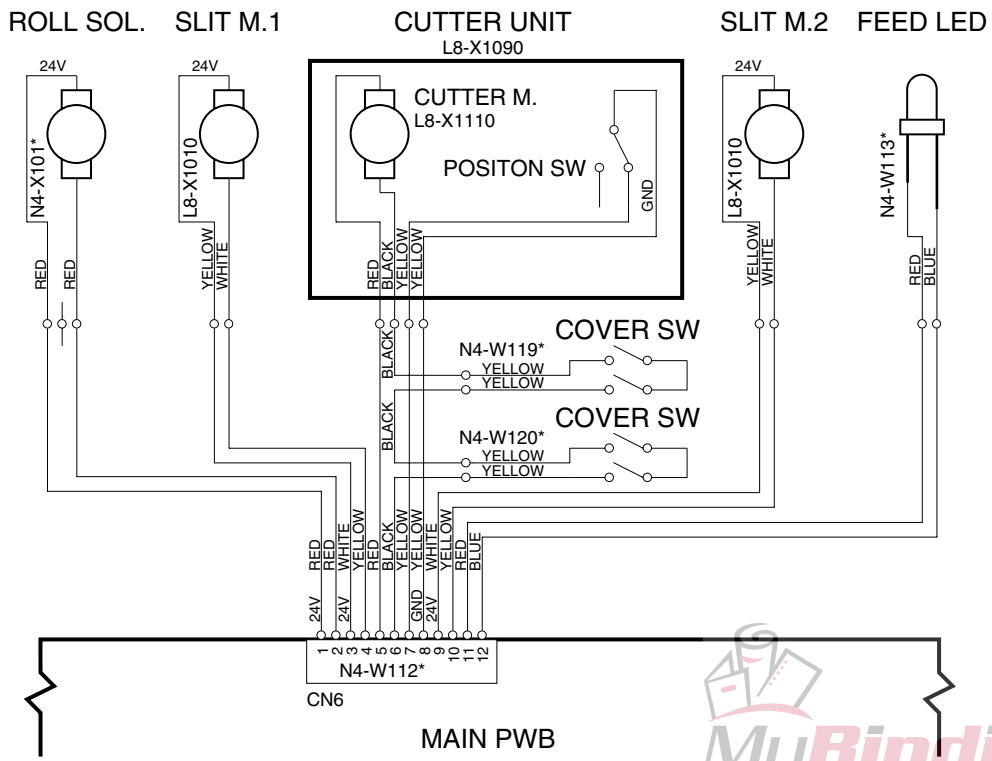
4) Main P.W.B. CN4



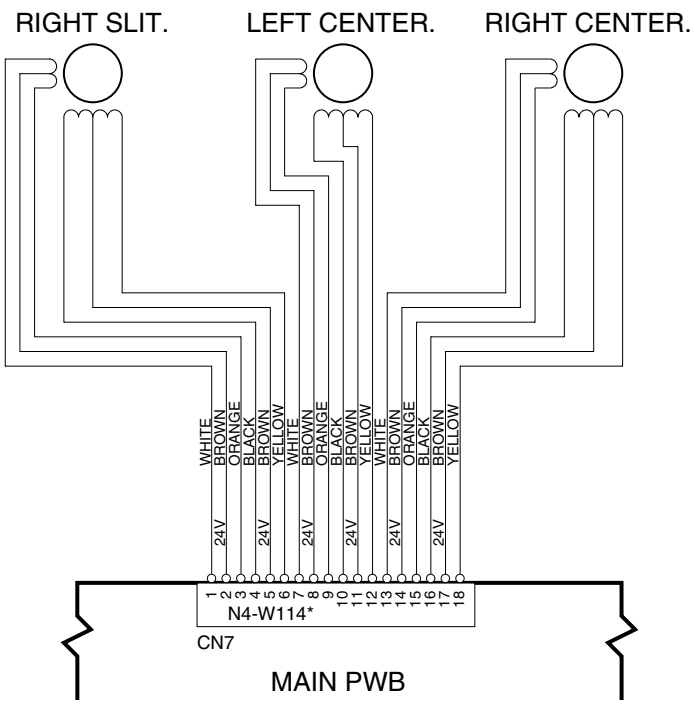
5) Main P.W.B. CN5



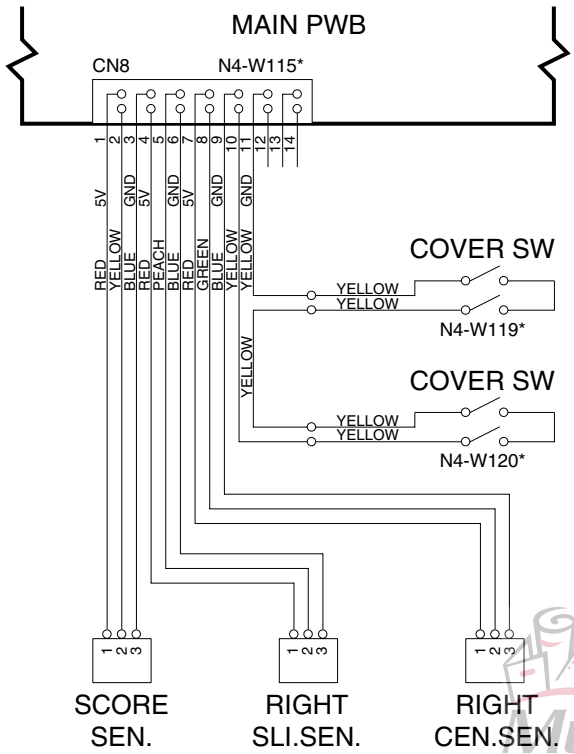
6) Main P.W.B. CN6



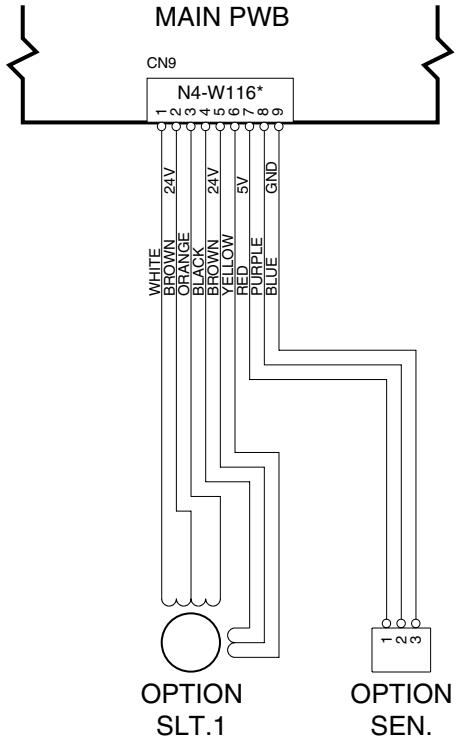
7) Main P.W.B. CN7



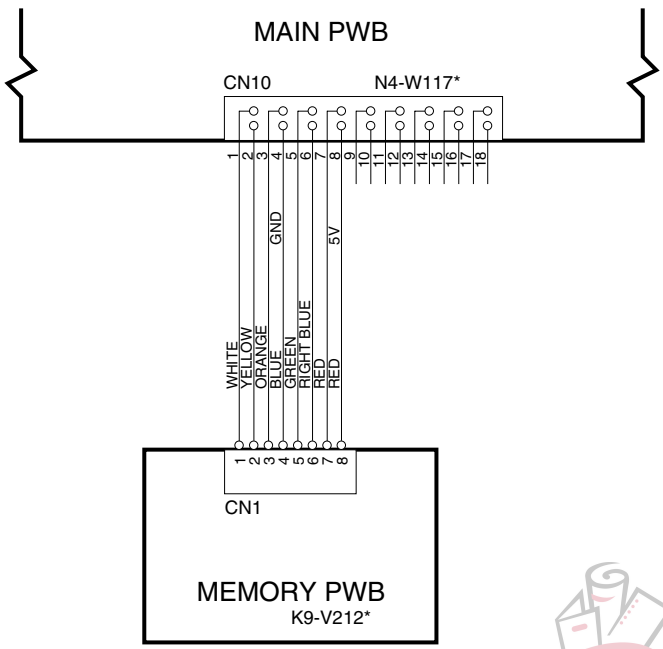
8) Main P.W.B. CN8



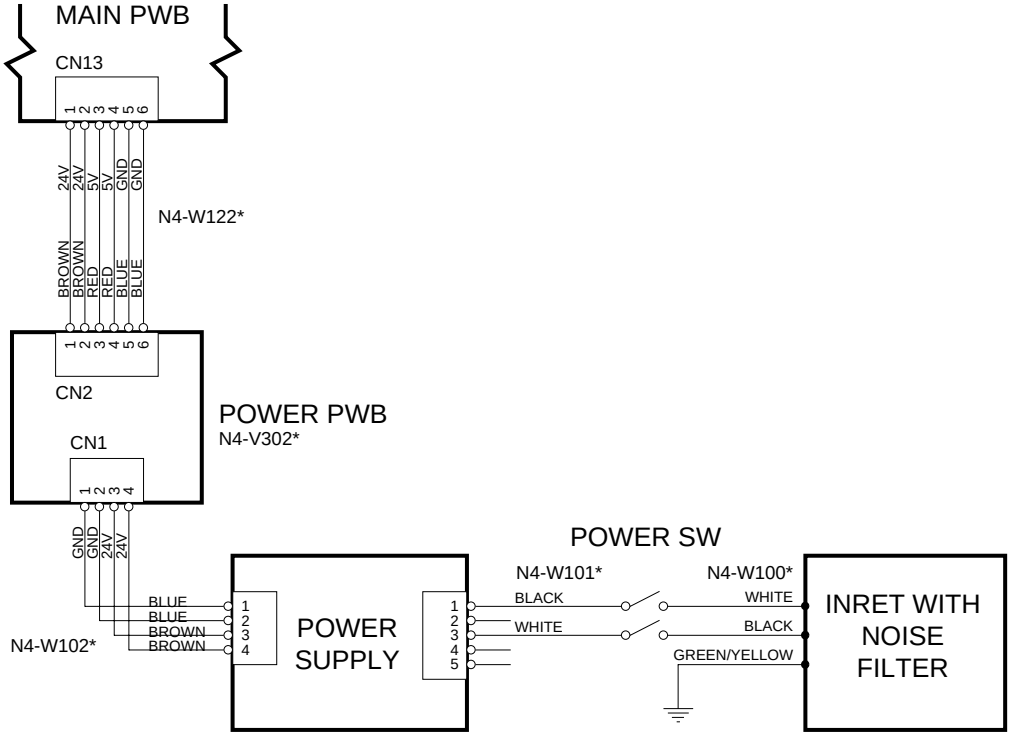
9) Main P.W.B. CN9



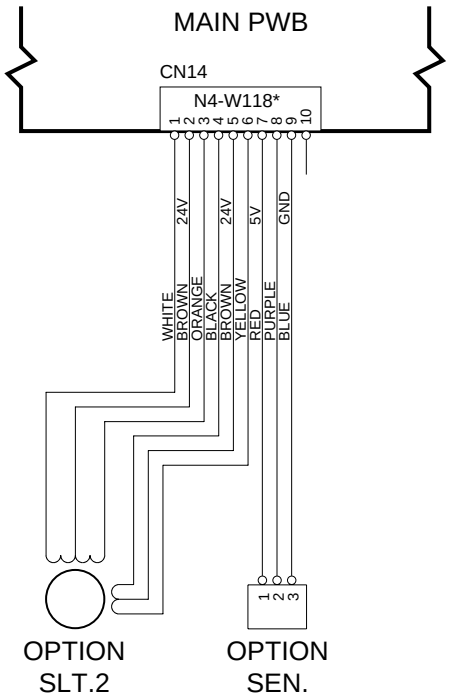
10) Main P.W.B. CN10



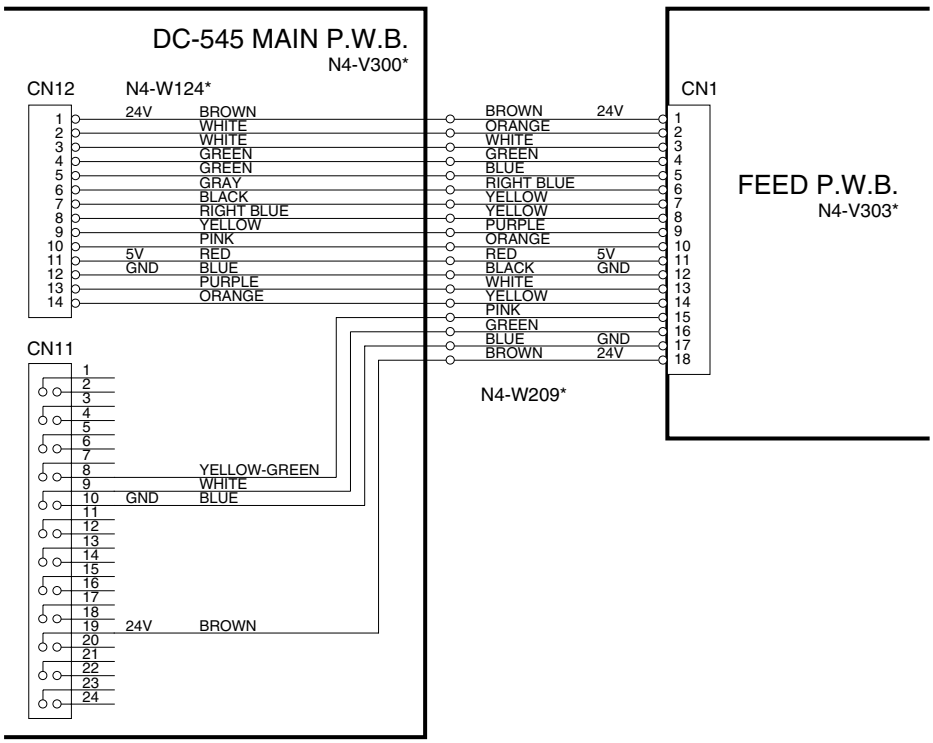
11) Main P.W.B. CN13



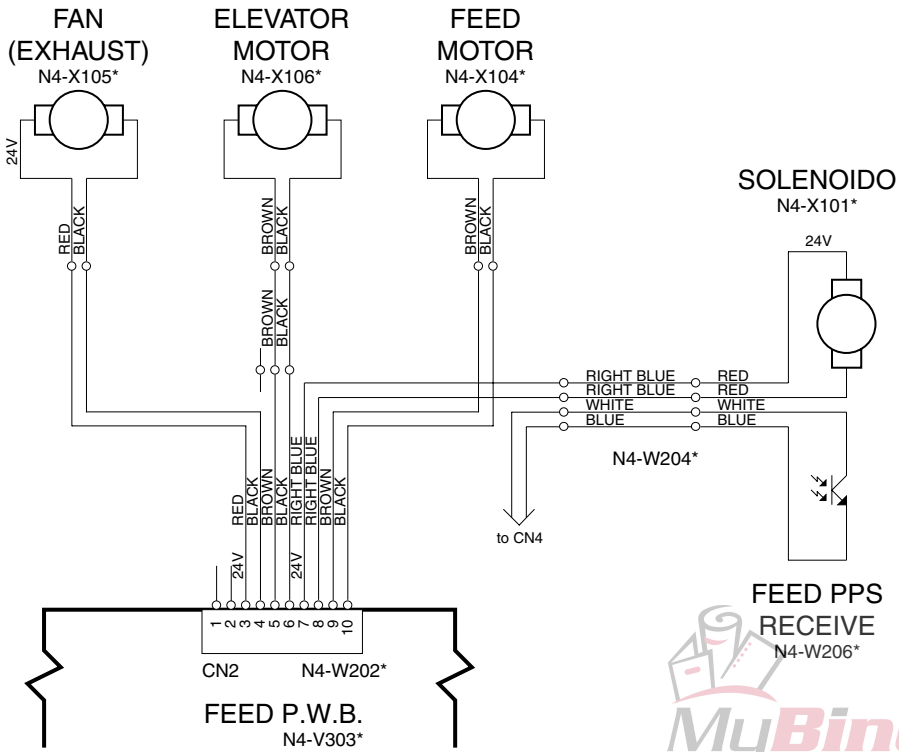
12) Main P.W.B. CN14



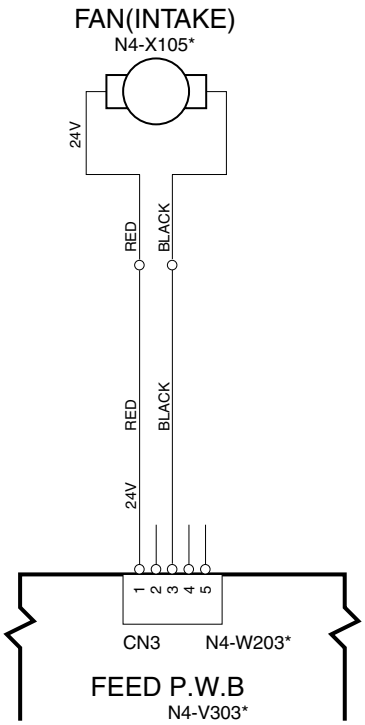
13) Main P.W.B. CN11,12 & Feed P.W.B. CN1



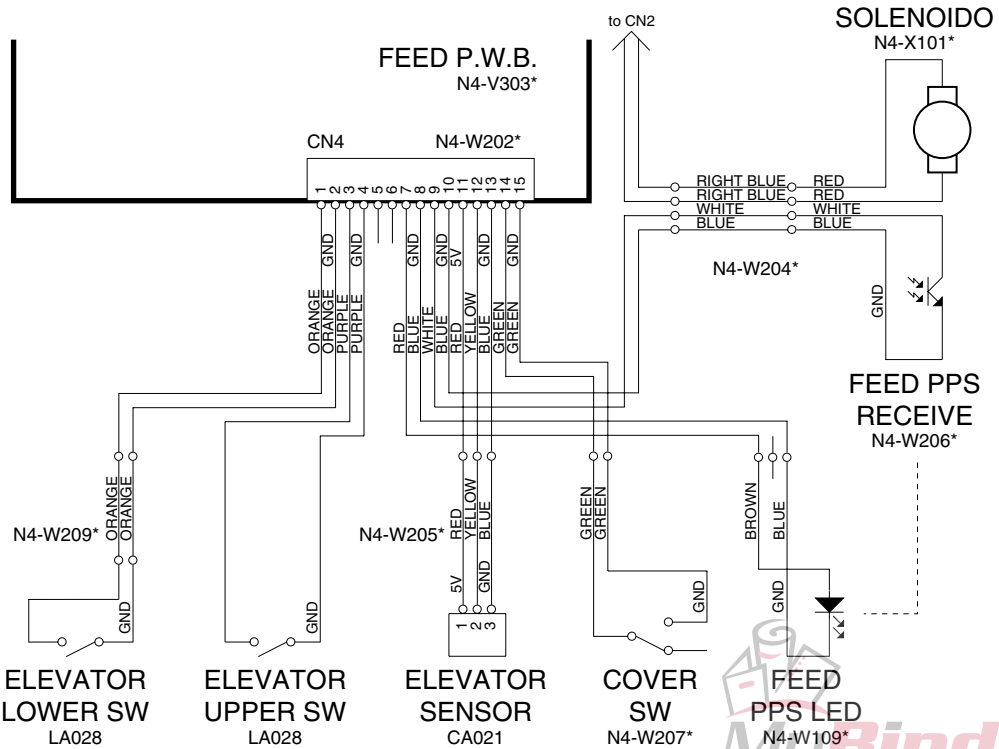
14) Feed P.W.B. CN2



15) Feed P.W.B. CN3



16) Feed P.W.B. CN4



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